DOCUMENT RESUME

ED 241 223 RC 014 641

TITLE Color Your Classroom II. A Math Curriculum Guide.
INSTITUTION Mississippi State Dept. of Education, Jackson.
SPONS AGENCY Office of Elementary and Secondary Education (ED), Washington, DC. Migrant Education Programs.
PUB DATE 83
NOTE 144p.; For "Color Your Classroom," a reading curriculum guide, see RC 014 640.
PUB TYPE Guides - Classroom Use - Guides (For Teachers) (052)

EDRS PRICE MF01/PC06 Plus Postage.
DESCRIPTORS Arithmetic; Behavioral Objectives; Decimal Fractions; *Educational Games; Elementary Education; Elementary School Mathematics; Geometric Concepts; *Learning Activities; *Mathematics Instruction; Mathematics Materials; Measurement; *Migrant Education; Number Concepts; Numbers; Percentage; Probability; Set Theory; *Skill Development; Statistics
IDENTIFIERS *Migrant Student Record Transfer System

ABSTRACT

This math curriculum guide, correlated with the numerical coding of the Math Skills List published by the Migrant Student Record Transfer System, covers 10 learning areas: readiness, number meaning, whole numbers, fractions, decimals, percent, measurement, geometry, probability and statistics, and sets. Each exercise is illustrated by a large drawing and contains a skill code, an objective, directions, and follow-up activities. For example, in the percent section, the definition exercise is Pencilling Percents; conversion exercises are Converting to Music and Triple Yolk; calculations exercises are In the Pocket--with Percents and Clearance Sale; and applications exercises are An X or an O and Sky High Prices. The readiness section contains three recognition of properties exercises, three divisions within properties exercises, four comparisons within properties exercises, two partitioning (grouping) exercises, and two ordering exercises. The guide includes 3 exercises for number meaning, 31 exercises for whole numbers, 19 exercises for fractions, 10 exercises for decimals, 16 exercises for measurement, 5 exercises for geometry, 3 exercises for probablility and statistics, and 4 exercises for sets. (MH)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED241223

Color Your Classroom II

A Math Curriculum Guide

1983

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Brenda Pounds

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

- Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

MIGRANT EDUCATION

RC014641

Color Your Classroom II

A Math Curriculum Guide

Color Your Classroom II
is a product of Mississippi Migrant Education

Mississippi State Department of Education
C. E. Holladay, State Superintendent
A. J. Comfort, Jr., Coordinator, Chapter I, ECIA
Sam B. Parker, Supervisor, Support Services

Services contracted through:
Gulfport Municipal Separate School District
Mercer B. Miller, Superintendent
David R. Bishop, Asst. Superintendent
Brenda Pounds, Project Director
Jeanette Alford, Curriculum Guide Specialist and Illustrator

Special credit to the staff members of the
Mississippi Materials and Resource Center:
Mary Joyce Laycock,
Anna Charlton, Debra Randall,
Justine Barnett, Betty Holmes
and the Migrant Teachers in the State of Mississippi

Contents

1. READINESS

0100 Recognition of Properties 1
0120 Divisions within Properties 4
0130 Comparisons within Properties .. 7
0140 Partitioning (Grouping) 11
0150 Ordering 13

2. NUMBER MEANING

1110 Basic 15

3. WHOLE NUMBERS

2100 Basic Characteristics 18
2120 Addition 22
2130 Subtraction 28
2140 Multiplication 32
2150 Division 37
2160 Applications 44

4. FRACTIONS

3110 Basic Characteristics 49
3120 Equivalent Fractions 52
3130 LCM and GCF 54
3140 Addition 56
3150 Subtraction 58
3160 Multiplication 61
3170 Division 64
3180 Applications 68

5. DECIMALS

4110 Basic Characteristics 71
4120 Conversions 73
4130 Addition 76
4140 Subtraction 79
4150 Multiplication 82
4160 Division 84
4170 Applications 86

6. PERCENT

5110 Definition 89
5120 Conversions 90
5130 Calculations 94
5140 Applications 97

7. MEASUREMENT

6110 Linear 100
6120 Area 105
6130 Volume 109
6140 Time 110
6150 Temperature 113
6160 Weight (Mass) 115
6170 Capacity 117
6180 Money 118

8. GEOMETRY

7110 Basic 123

9. PROBABILITY AND STATISTICS

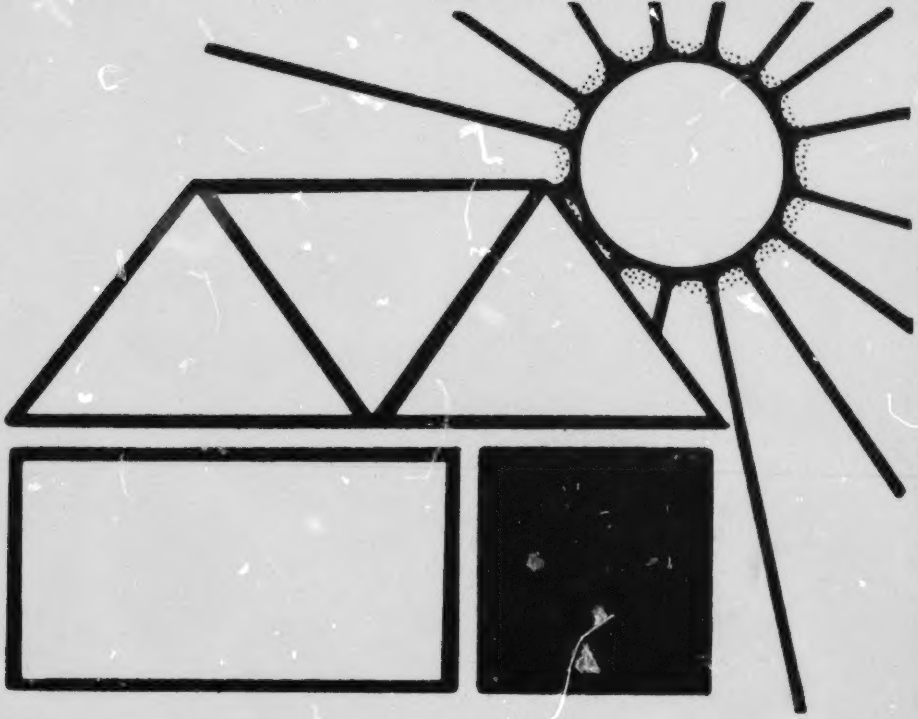
8110 Basic Graphs 130

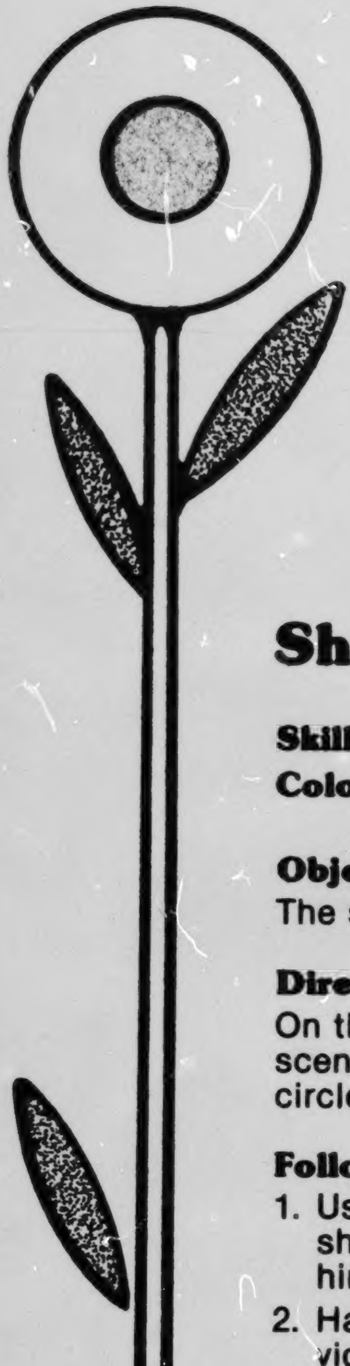
10. SETS

9110 Single Sets 134
9120 Subsets 135
9140 Set Operations 136
9150 Venn Diagrams 138

The Math Curriculum Guide was developed in correlation with the numerical coding of the Math Skills List published by the Migrant Student Record Transfer System.

This publication has been paid for through Title I, ESEA, Migrant Education Funds, Public Law, 95-561, Section 143. The opinions expressed herein do not necessarily reflect the position or policy of the U. S. Department of Education, and no official endorsement by the U.S. Department of Education should be inferred.





Shape A Scene

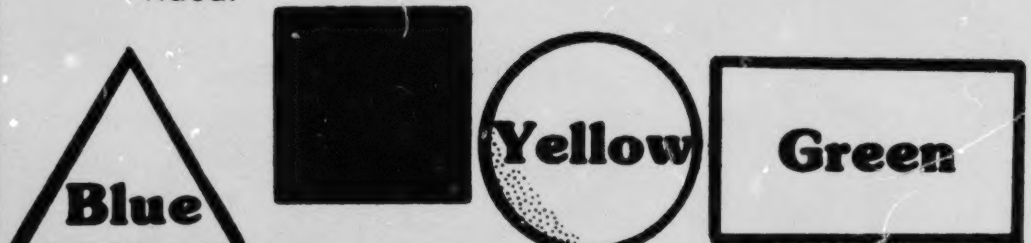
Skills #001-004

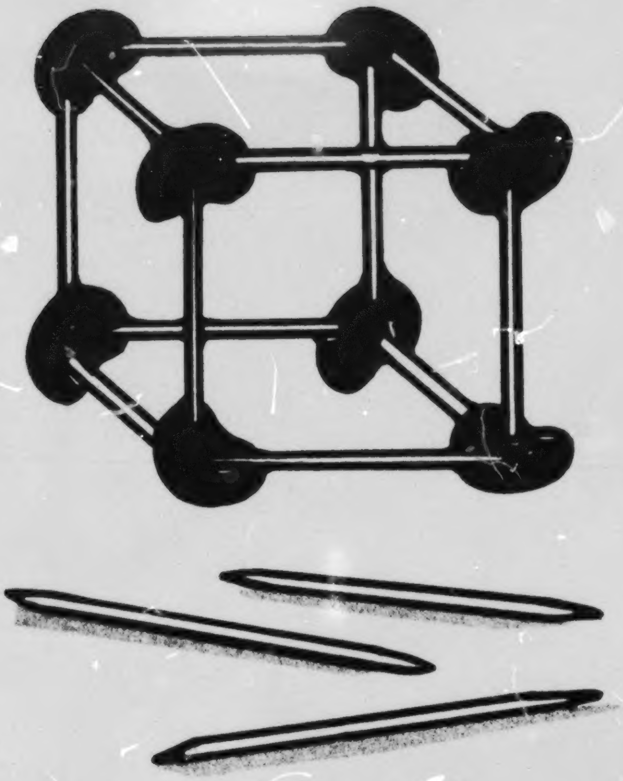
Color and Shape as a Property

Objective:
The student will differentiate among colors and shapes.

Directions:
On the outline provided, have the student shape a colorful scene by adding the various colored triangles, squares, circles, and rectangles.

Follow-up Activities:
1. Using the same outline, instruct the student to color its shapes. For example, triangles-blue; circles-yellow. Have him match shapes by color and name.
2. Have the student create a picture with the shapes provided.





Jellybean Jamboree

Skills #001, 007
Color and Dimension as a Property

Objective:

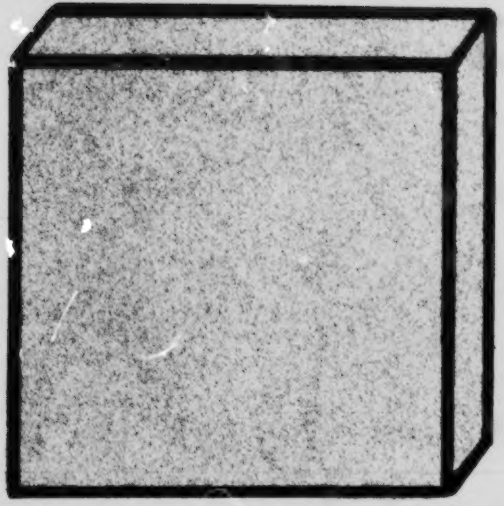
The student will identify color and 2-D vs. 3-D as differentiating characteristics.

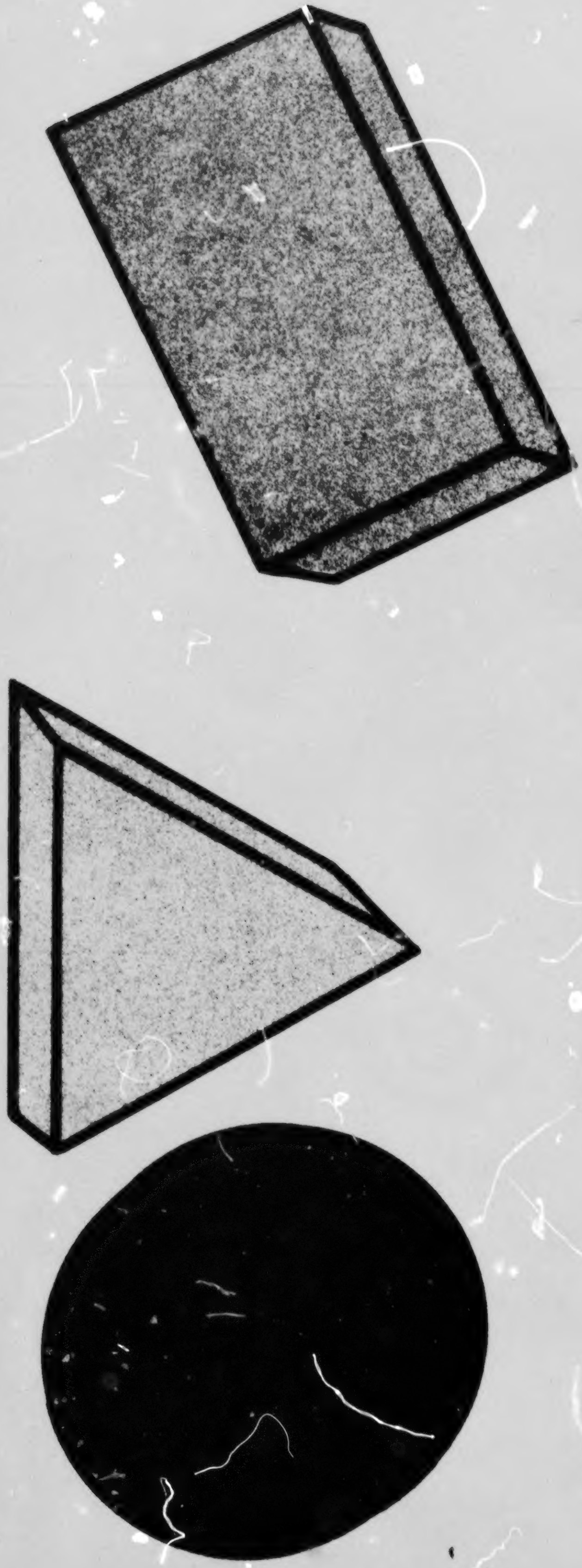
Directions:

Have the student choose a color, illustrate a 2-D shape and then build its 3-D equivalent. For example, square - 2-D; box 3-D.

Follow-up Activities:

1. Give the student a geometric picture. Have him fill in each shape with the following designated colors of jellybeans: triangle-red; square-yellow; rectangle-purple.
2. Have the student construct a 3-D design, using toothpicks and jellybeans.





Touch'n Tell

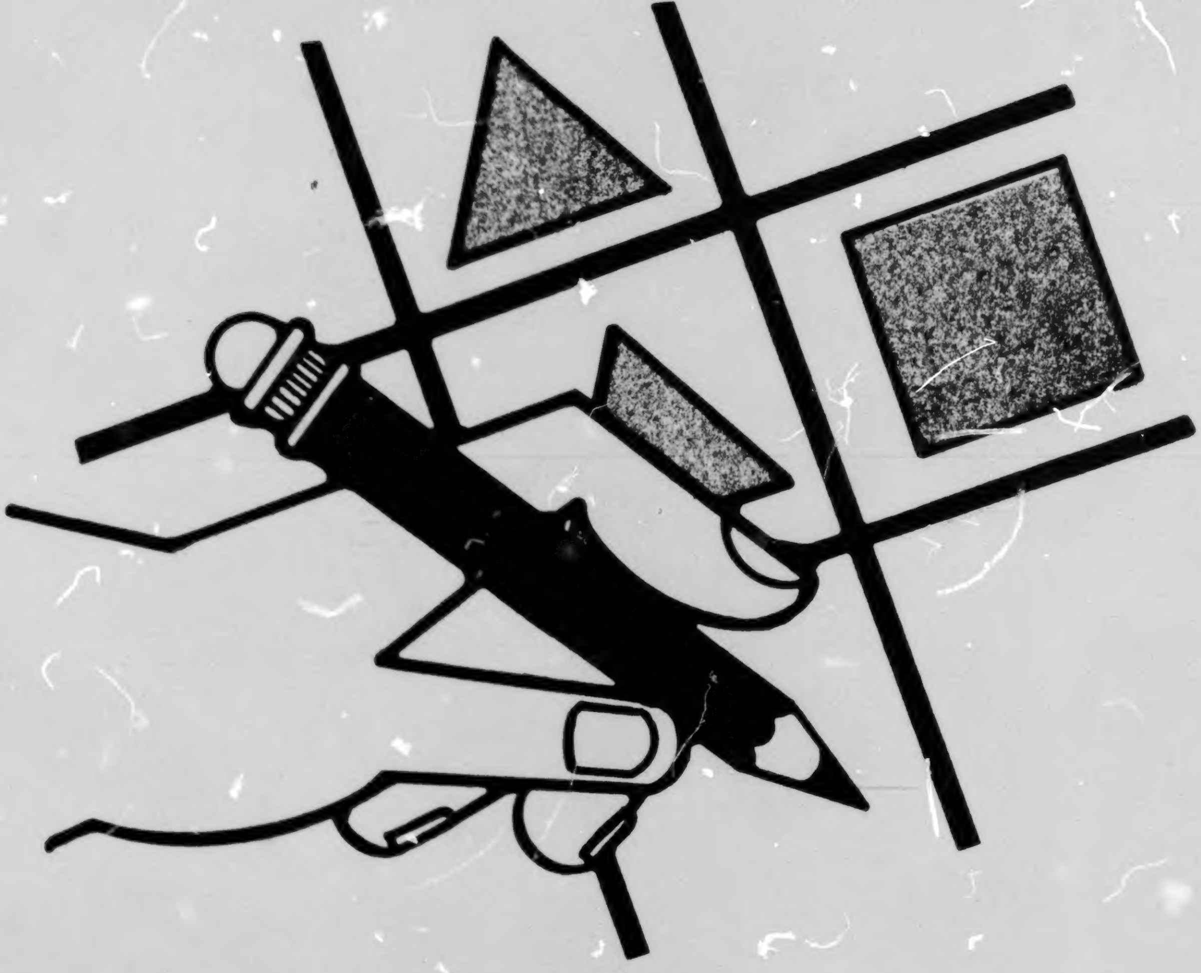
Skill #007
Dimension as a Property

Objective:
The student will differentiate between 2-D and 3-D objects.

Directions:
The student removes the four 3-D objects from the envelope. He places one of the objects on a sheet of paper and traces the outline with a pencil. Ask the student to explain the difference between the outline and the actual object.

Follow-up Activities:

1. Have the student close his eyes and feel the objects in the envelope. Can he identify each by name?
2. Have him draw from memory a 2-D shape of each object he identified by touch.



Tic-Tac Shapes

Skill #013
2-D Shapes

Objective:
The student will name 2-D shapes.

Directions:
The activity is played like the traditional game "Tic Tac Toe," using 2-D shapes. The student must call the shape by name as he draws it on the gameboard.

Follow-up Activities:

1. Draw a "Tic Tac Toe" board on the playground. Have the students play "Tic Tac Toe" with outdoor 3-D objects.
2. Direct the students to select a 2-D shape and construct a mobile out of 3-D objects representing that same shape.

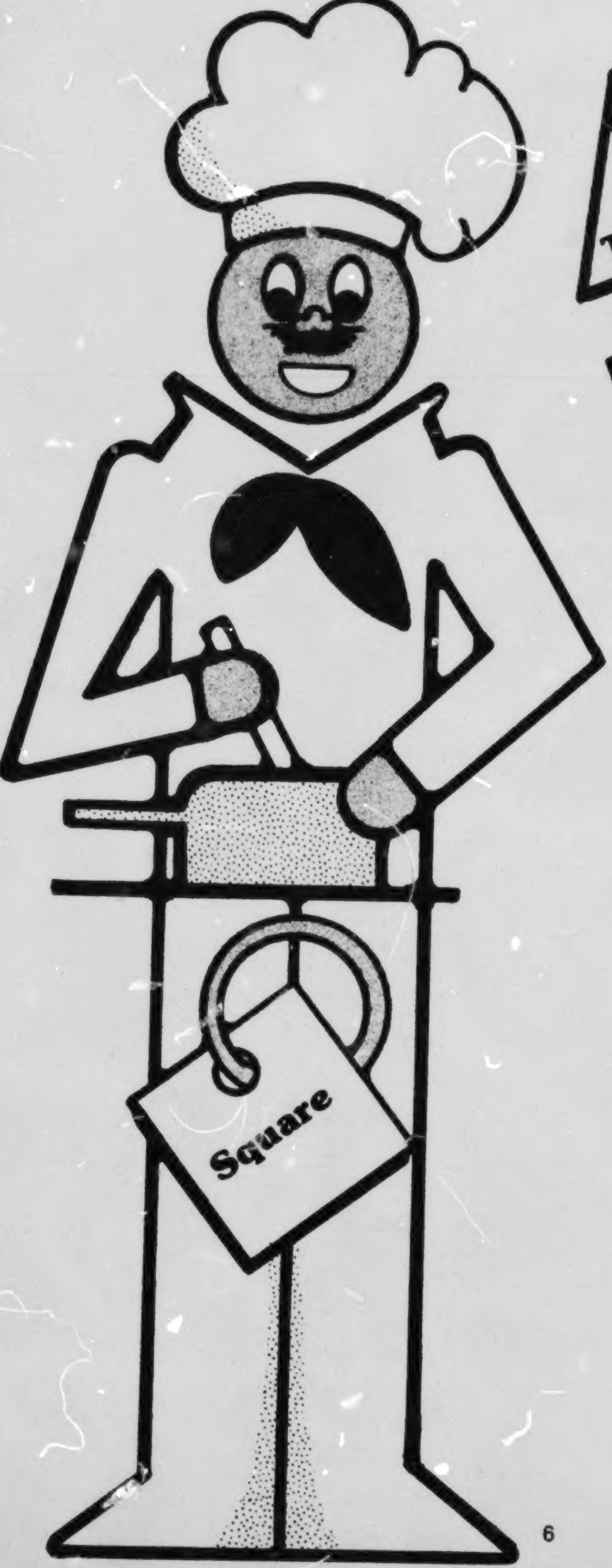
Shape for a Day

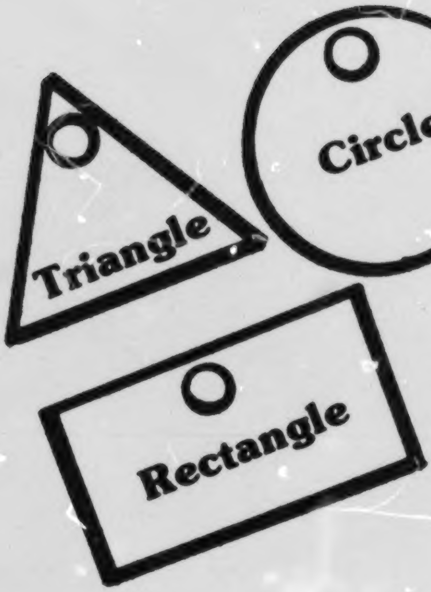
Skill #019
Line Segments Forming Shapes

Objective:
The student will identify a line segment in the 2-D shape.

Directions:
Each student is given popsicle sticks to be used as line segments. The teacher gives a description of the shape to be made, and the first student to complete the shape scores one point. The winner is crowned "Shape for a Day."

Follow-up Activities:
1. Furnish the students with glue, paper, and string to be used as line segments, and have them construct shapes to form a design.
2. Using the designs from follow-up one, have the students make an attractive bulletin board display.





A Baker's Dozen

Skill #025
Real World Shapes

Objective:

The student will identify real world shapes related to symbolic geometric shapes.

Directions:

The student takes the shapes from baker Bob and places each one with the same shape on an object in the room. Have him match a "Baker's Dozen."

Follow-up Activities:

1. Give the student one shape at a time and have him search through a magazine to find objects with that same shape.
2. Have the student make a collage of each shape, using the magazine pictures from follow-up one.

POOPED CORN

Pop-a Corn and Candy Corn were going to have a party to celebrate Pepper Corn's second birthday. Pop-a and Candy decided to have a slumber party and to invite all the Corns in the pantry.

The party was a success. All the Corns stayed up all night to celebrate.

The following evening the O'Cob household, where the Corns lived, decided to pop the Corns. Mrs. O'Cob put the Corns on the stove to pop. While she was waiting for the corn to pop, Kernel O'Cob helped Mother by getting out the bowl for the popcorn. "It must be popped by now," said Mrs. O'Cob. She took the lid off the pan and, to her surprise, she saw kernels of unpopped corn.

Candy Corn saw Mrs. O'Cob and said, "We are just too pooped to pop." If only Mrs. O'Cob knew the whole story!

Questions:

1. What happened before Mrs. O'Cob put the corn on the stove to pop?
2. What happened during the time the corn was on the stove?
3. What happened after Mrs. O'Cob took the lid off the pan?

Pooped Corn

Skill #031
Simple Temporal Relations

Objective:

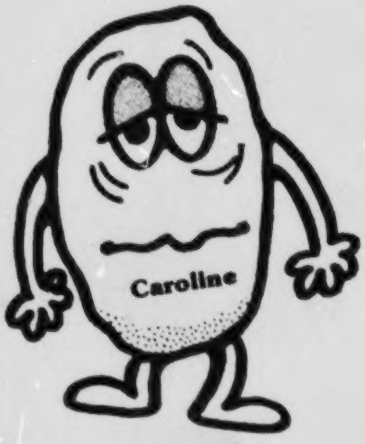
The student will identify events having a given temporal relation.

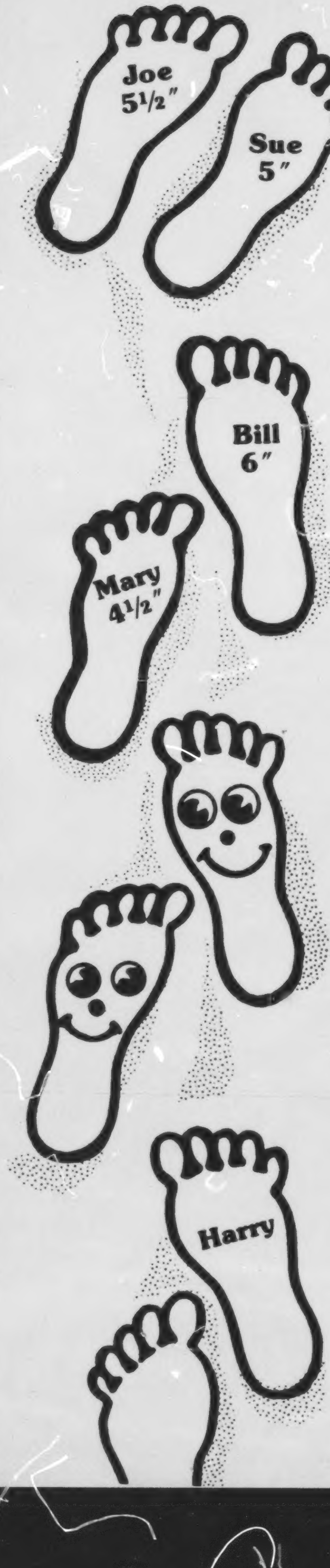
Directions:

After reading the story, "Pooped Corn," to the student ask him the three questions listed above.

Follow-up Activities:

1. Have a student act out an event from the story, and the other students will identify it as happening before, during, or after the party.
2. Have a popcorn party followed with a discussion of the party's events.





Hop To It

Skill #040
Length Relations

Objective:
The student will identify objects having a specified length relation.

Directions:
Have each student trace his foot on a piece of construction paper, cut it out, and label it with his name and foot length.

Follow-up Activities:
1. Using a student's traced foot, measure different objects in the classroom.
2. Using the paper feet, have the students blaze a trail to the nearest fire exit.

Fill'er Up

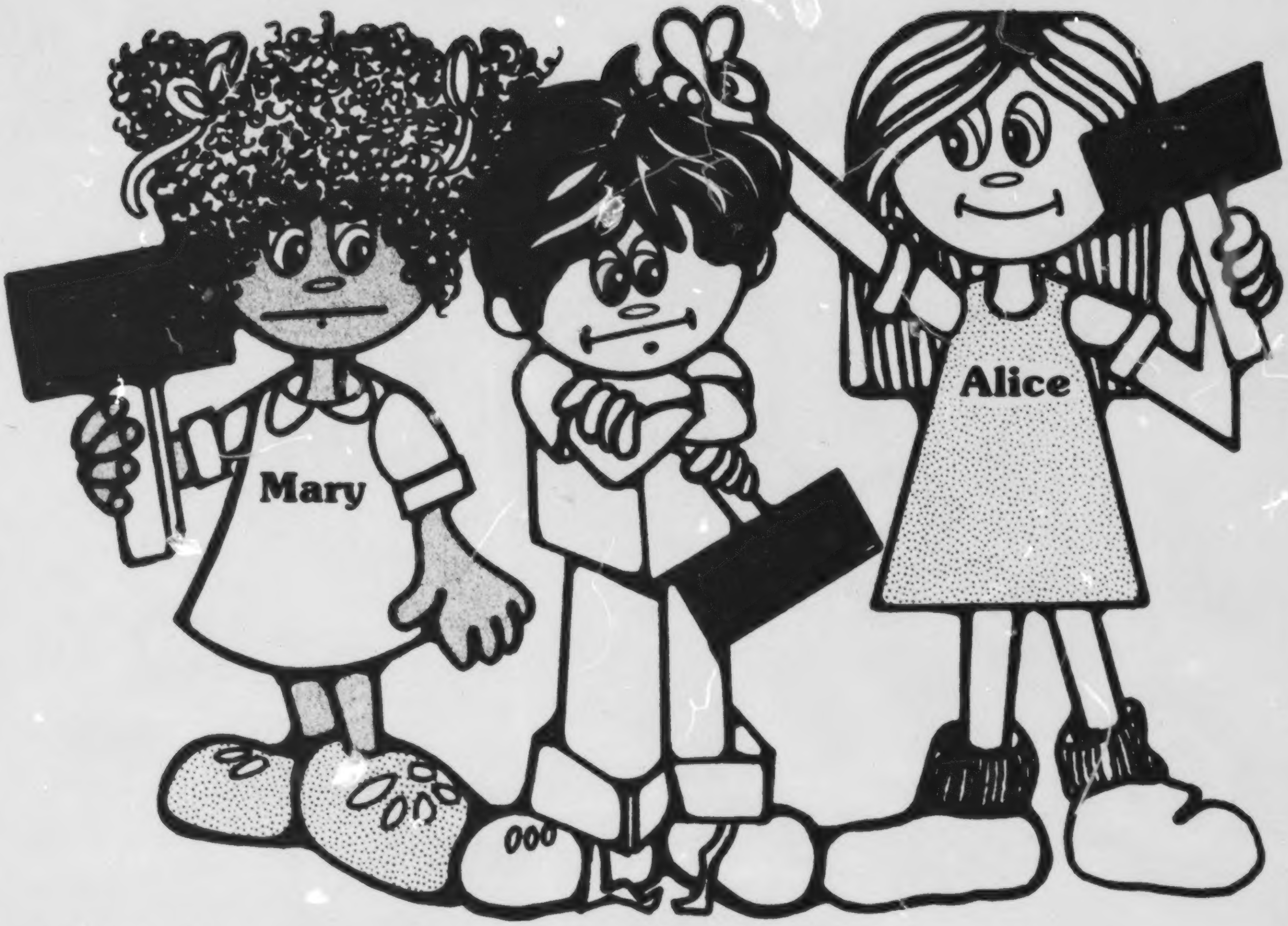
Skill #043
Volume Relations

Objective:
The student will identify specified volume relations.

Directions:
Using real lemonade, pour varying amounts into three glasses. After the student identifies the volume relations of the glasses, the lemonade may be served.

Follow-up Activities:

1. Pour varying amounts of water into glass bottles. Tap out a tune identifying the relationship of tone to volume.
2. Have the students arrange the bottles in descending order, according to volume.



First Last and In-Between

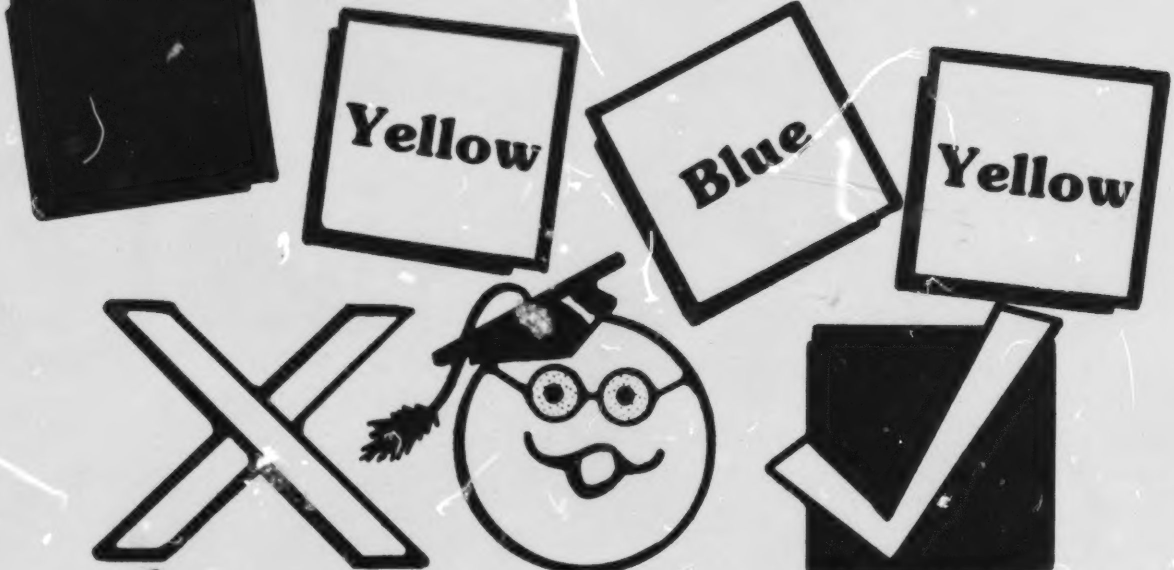
Skill #046
Simple Ordinal Relations

Objective:
The student will identify objects in specified ordinal position.

Directions:
Have the students form a line and respond to the following questions by raising their hands. Who is first in line? Who is last in line? Who is between first and last?

Follow-up Activities:

1. Stand three to five students in a line in front of the class. Ask the students questions pertaining to their ordinal positions; for example, "Where is Cindy in line?"
2. Shuffle and deal cards with ordinal positions written on each. Using a row of chairs, the students identify their positions by sitting in the appropriate, designated chairs.



Blue
Yellow

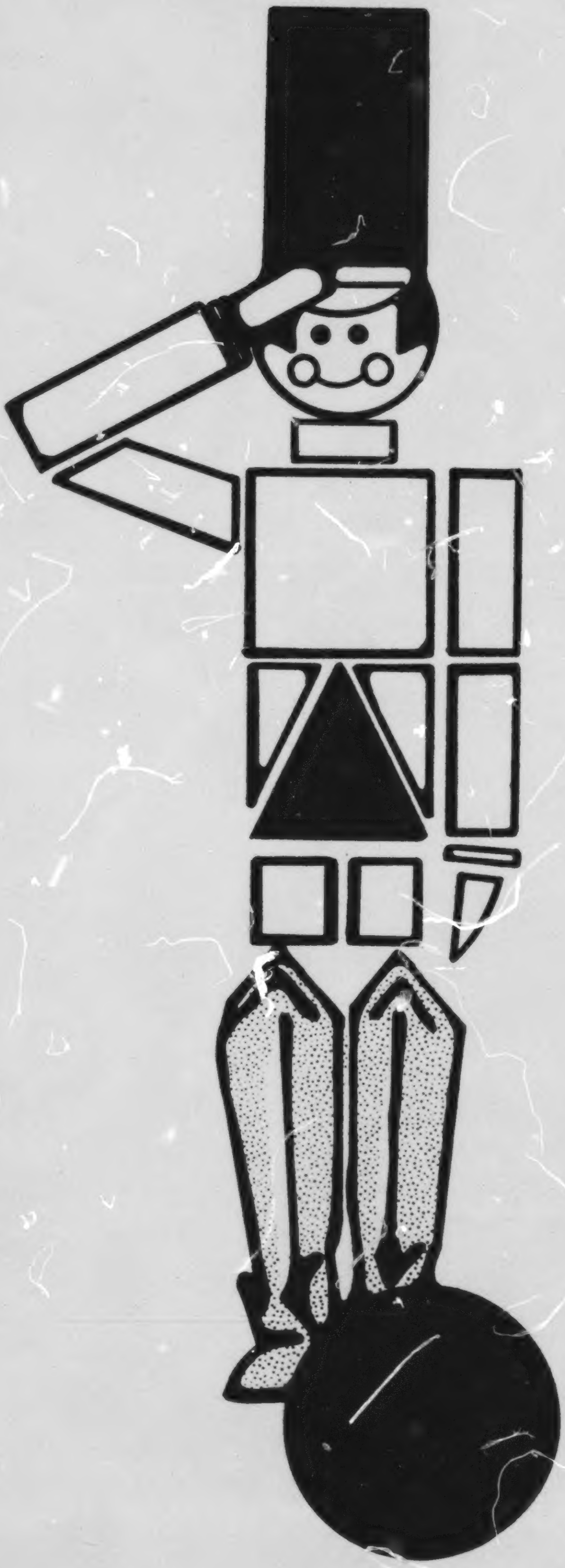
Color Check

Skill #049
By Color

Objective:
The student will identify objects grouped by color.

Directions:
Have the student put a (✓) on all the red squares, an (X) on all the blue squares, and an (0) on all the yellow squares.

Follow-up Activities:
1. Ask the students to group themselves, according to the color of their shirts.
2. Have the students play "Call A Color." The game is played by each student who holds up an object of the color called.



Salute The Shapes

Skills #052, 055
By 2-D and 3-D Shape

Objective:

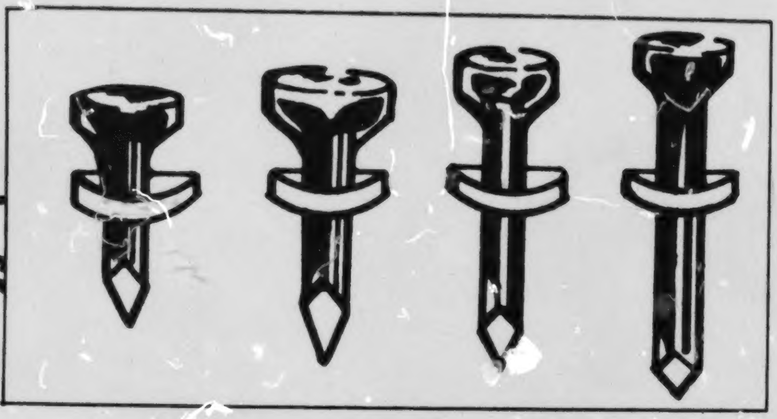
The student will identify 3-D objects grouped by corresponding 2-D shapes.

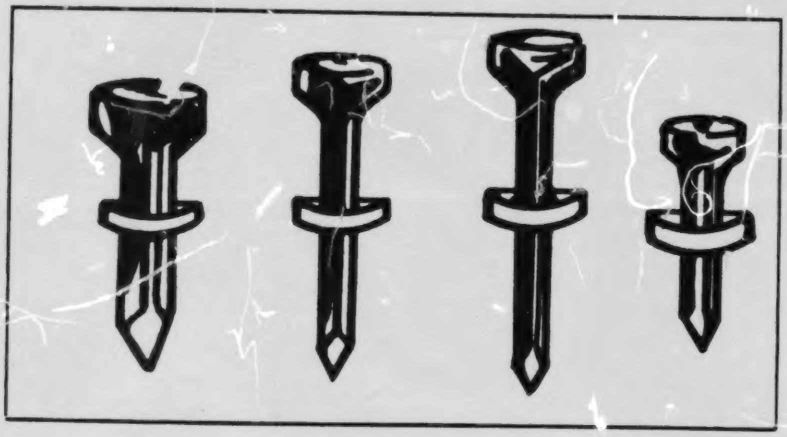
Directions:

The student will find in the classroom 3-D objects that correspond to each of the 2-D shapes on the toy soldier.

Follow-up Activities:

1. Play some music; when it stops, the children must go to the shape designated by the instructor. For example, interrupt the music and announce, "Square."
2. Have the students make a shape book, using pictures of 3-D objects corresponding to that shape.





You Hit The Nail On The Head

Skill #058
By size (Area)

Objective:

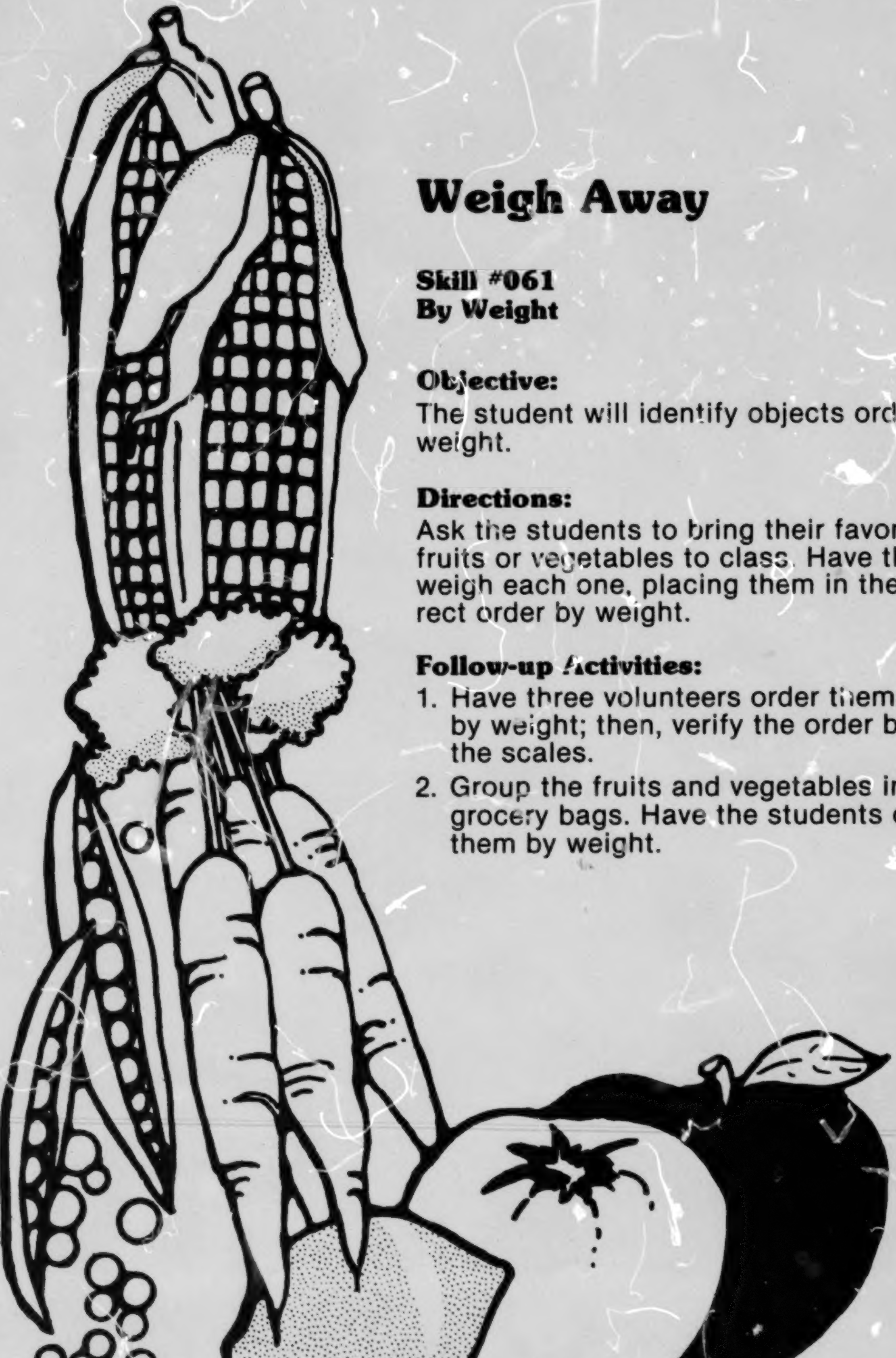
The student will identify objects ordered by size.

Directions:

The student will identify which group of nails has been ordered by size. Have him arrange from the smallest to the largest.

Follow-up Activities:

1. Label the pockets of a carpenter's apron as follows: small, medium, and large. Then have the student sort the nails into the correct pocket.
2. Have the student order the nails by size; then, have the student, using a styrofoam block, hammer the nails.



Weigh Away

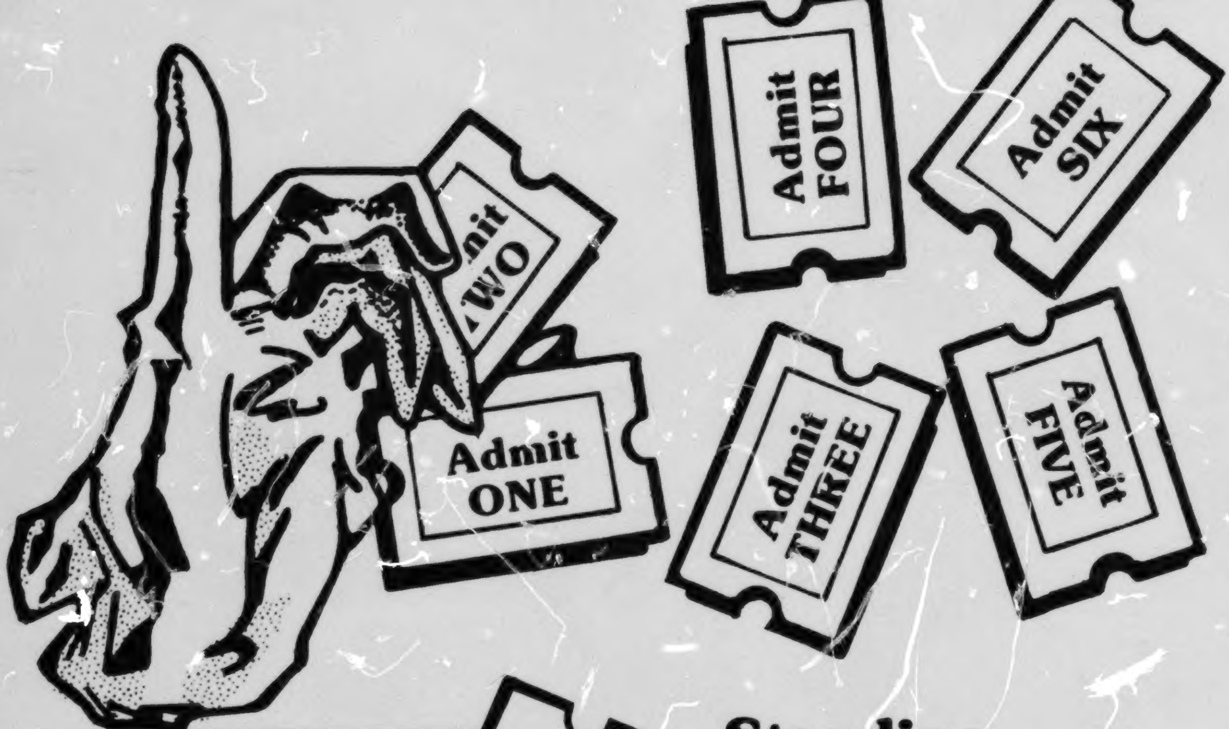
Skill #061
By Weight

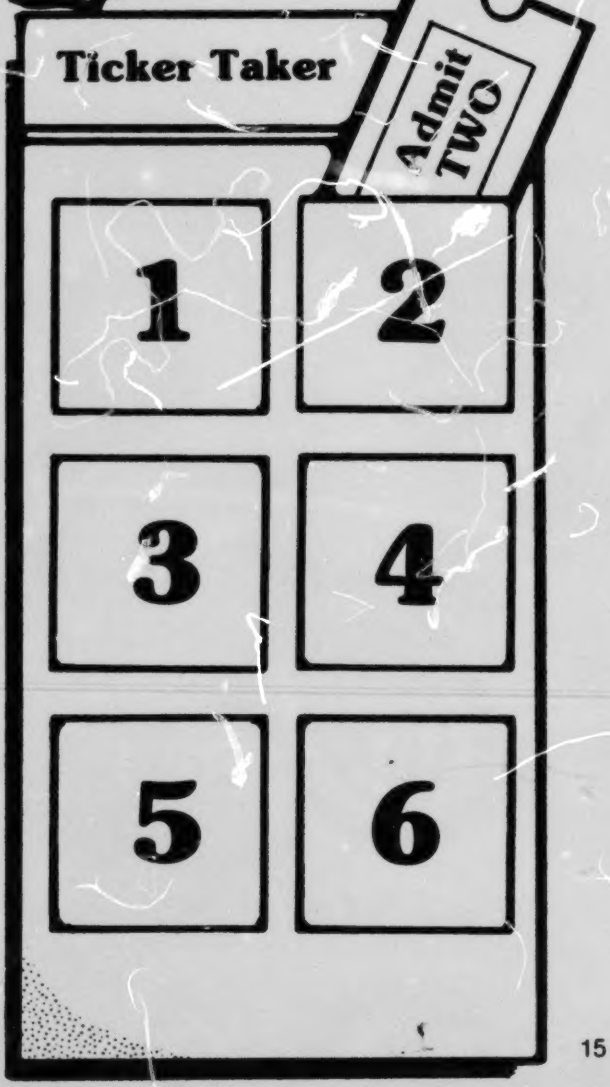
Objective:
The student will identify objects ordered by weight.

Directions:
Ask the students to bring their favorite fruits or vegetables to class. Have them weigh each one, placing them in the correct order by weight.

Follow-up Activities:

1. Have three volunteers order themselves by weight; then, verify the order by using the scales.
2. Group the fruits and vegetables in grocery bags. Have the students order them by weight.


Admit
FOUR
Admit
SIX
Admit
TWO
Admit
ONE
Admit
THREE
Admit
FIVE


Ticker Taker
Admit
TWO
1
2
3
4
5
6

Standing Room Only

Skill #070
Numerals and Associated Word Names

Objective:

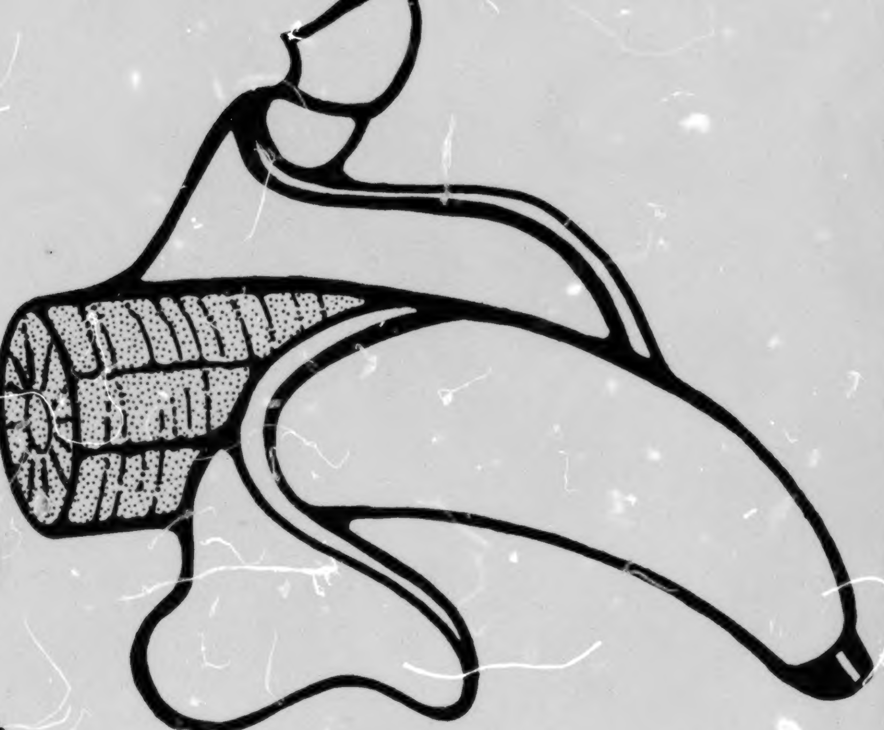
The student will identify the numerals corresponding to the word names.

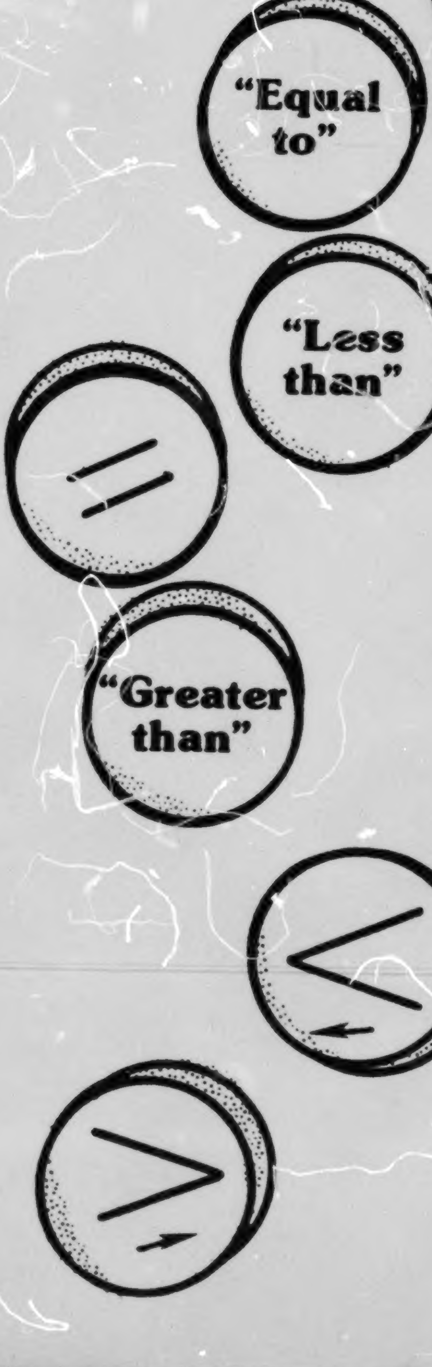
Directions:

Have the student name the numeral by matching the word names on the tickets to the numerals on the activity board.

Follow-up Activities:

1. Give half the students tickets with word names and the other half tickets with numerals. At a given signal, each student finds his corresponding ticket.
2. Show the student a word name, such as three, and have him circle the corresponding numeral on a grocery store ad.





Going Bananas

Skill #073
Signs and
Associated Word Names

Objective:

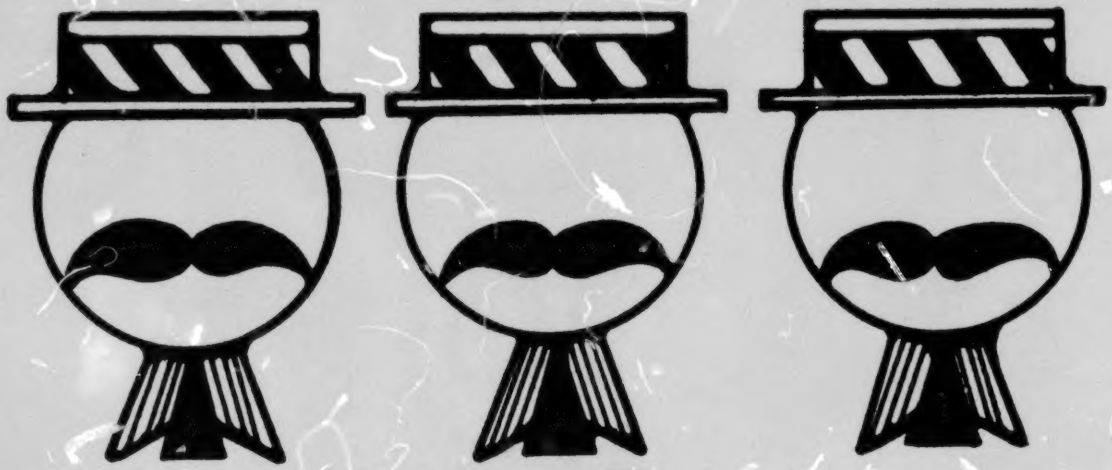
The student will identify the symbols corresponding to the word names.

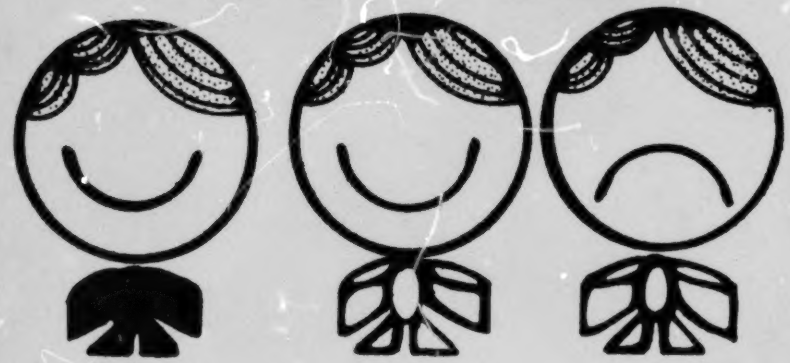
Directions:

Have the student match the correct banana slices.

Follow-up Activities:

1. Place real bananas in groups of three's, five's, and seven's. Have the students use the symbols to explain their relationships.
2. Distribute the bananas and have each student take one bite. Have the student compare the bananas and determine whether his banana is greater than, less than, or equal to the others.





1. The man with the red hat is the __________ man.
2. The __________ baby is the saddest.
3. The __________ baby has a red bow.

First, Second, or Third

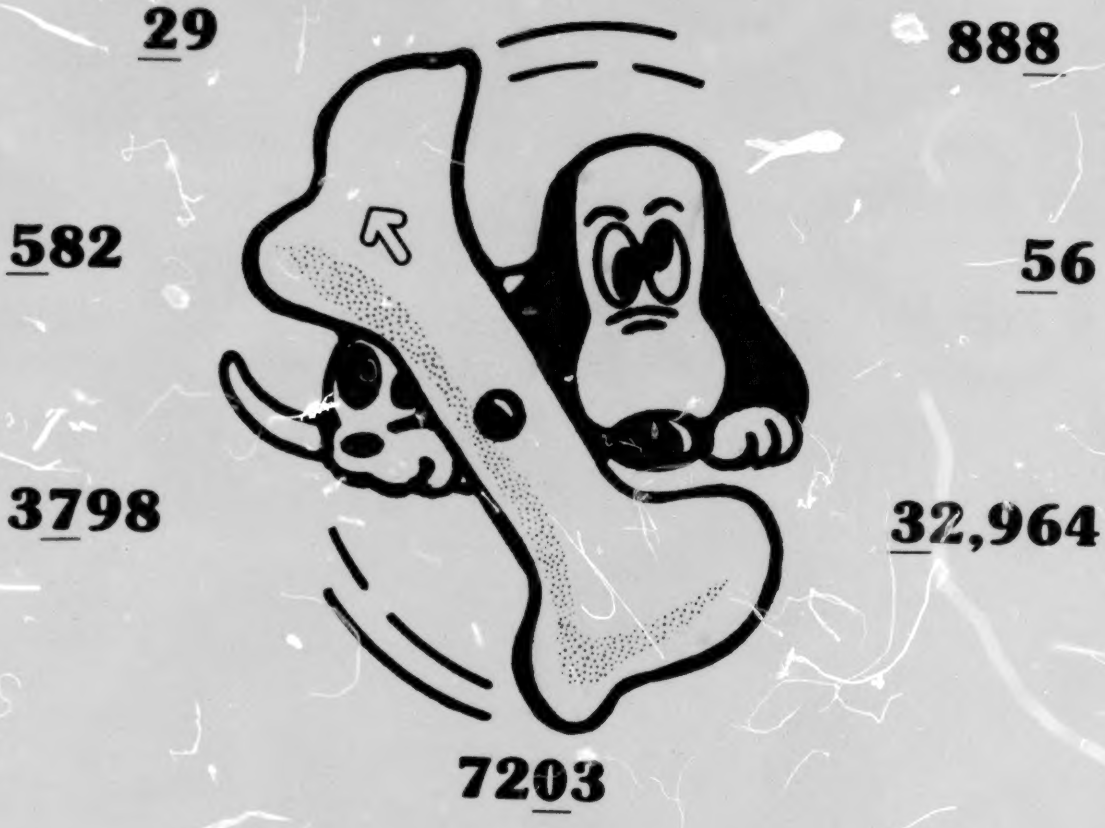
Skill #076
Ordination

Objective:
The student will identify objects occupying the given ordinal position.

Directions:
Have the student answer the questions above by using the words *first, second,* or *third.*

Follow-up Activities:

1. Reverse the procedure by asking the student the following question: "Which baby has the red bow"?
2. Have students stand in line. Ask one to leave. Ask the student who is missing: first, second, or third?



Spin the Bone

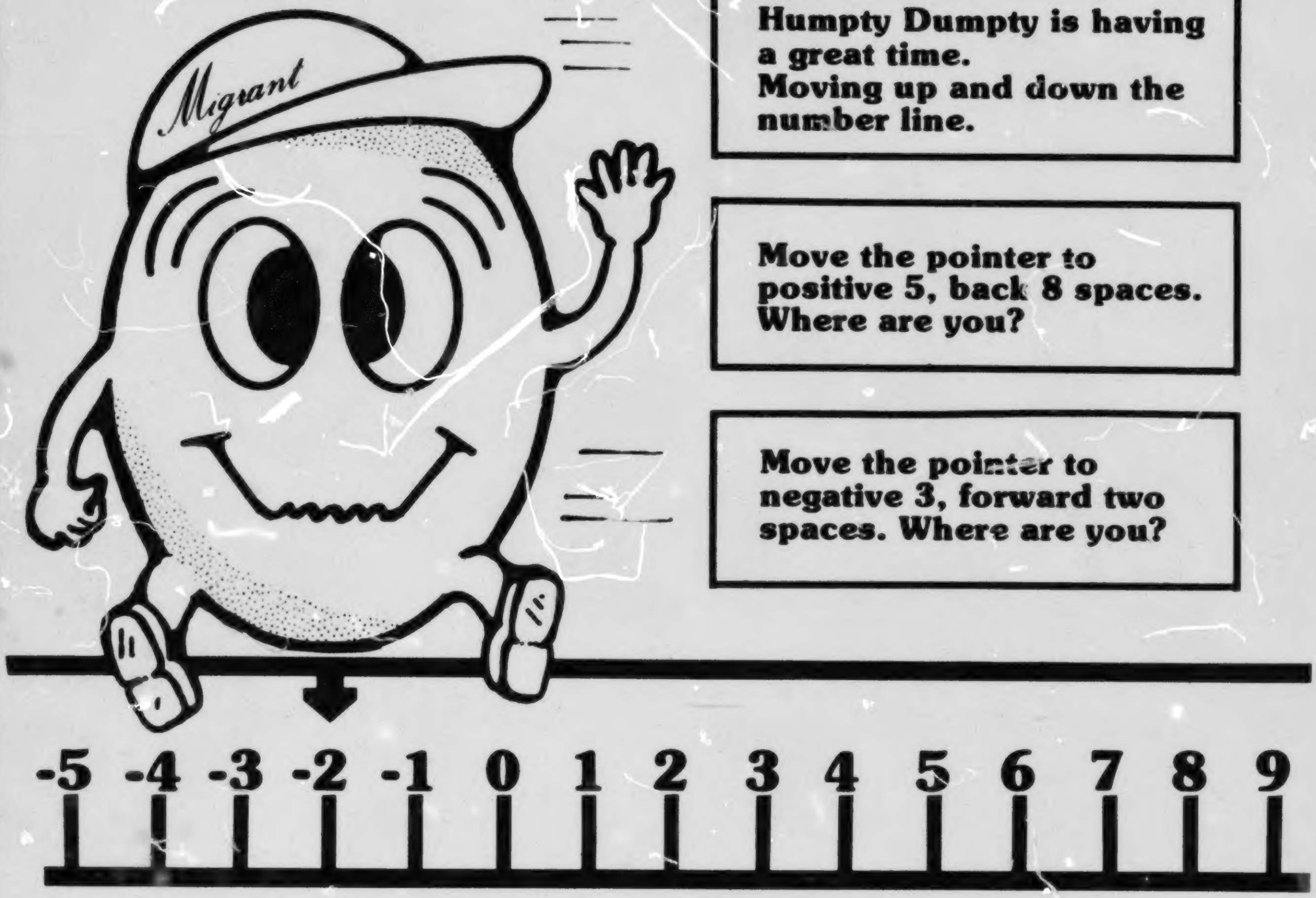
Skill #082
Place Value

Objective:
The student will name the place value of a given digit in the numeral.

Directions:
In alternating turns, each student spins the bone. He must name the place value of the underlined digit in the numeral; for each correct answer, he scores 10 points.

Follow-up Activities:

1. Have the student name the place values of all the digits, using the numerals from the above activity board.
2. Write two to five-digit numerals on paper bones with one digit underlined. Have the student sort them into the proper dog dishes labeled with place values.



Humpty Dumpty is having a great time.
Moving up and down the number line.

Move the pointer to positive 5, back 8 spaces. Where are you?

Move the pointer to negative 3, forward two spaces. Where are you?

Humpty Dumpty Line

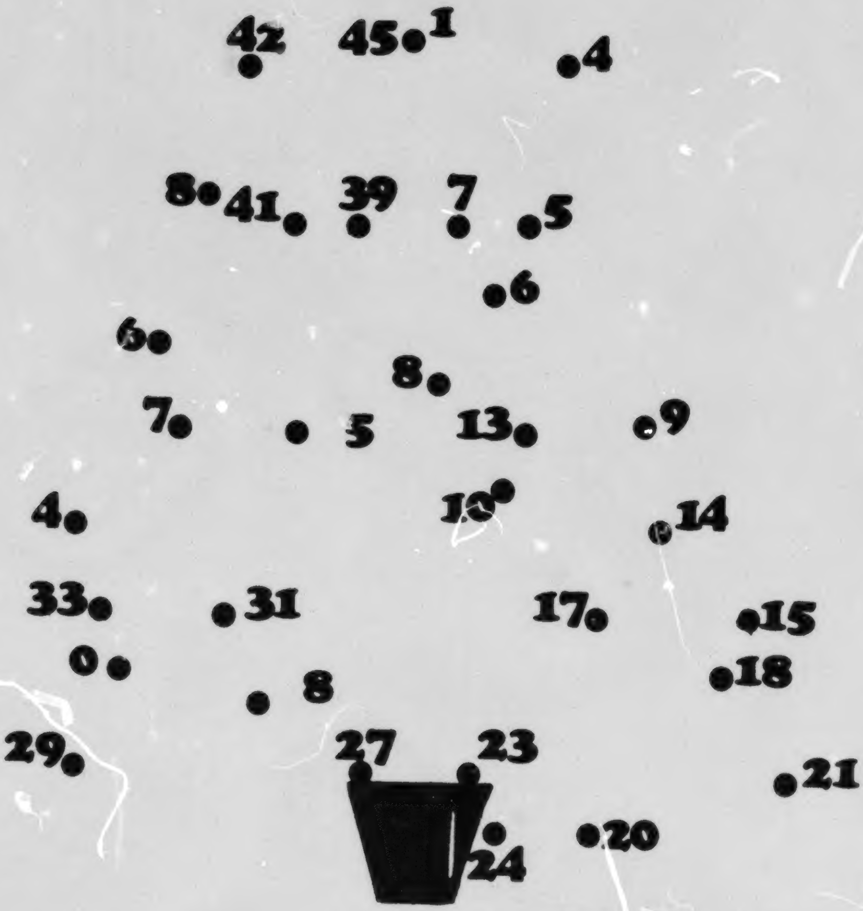
Skill #088
Number Line

Objective:
The student will name the point on a number line.

Directions:
Have the student answer the questions above by moving the Humpty Dumpty pointer.

Follow-up Activities:

1. As an outdoor activity, draw a chalk number line on the sidewalk. Have the students assume positions on the line, according to the directions given.
2. Using the same number line, have the students play a version of hopscotch. Each student must throw his marker in sequence from the lowest negative to the highest positive numeral.


42
45
1
4
8
41
39
7
5
6
6
8
7
5
13
9
4
10
14
33
31
17
15
0
8
18
29
27
23
21
24
20

Surprise Package

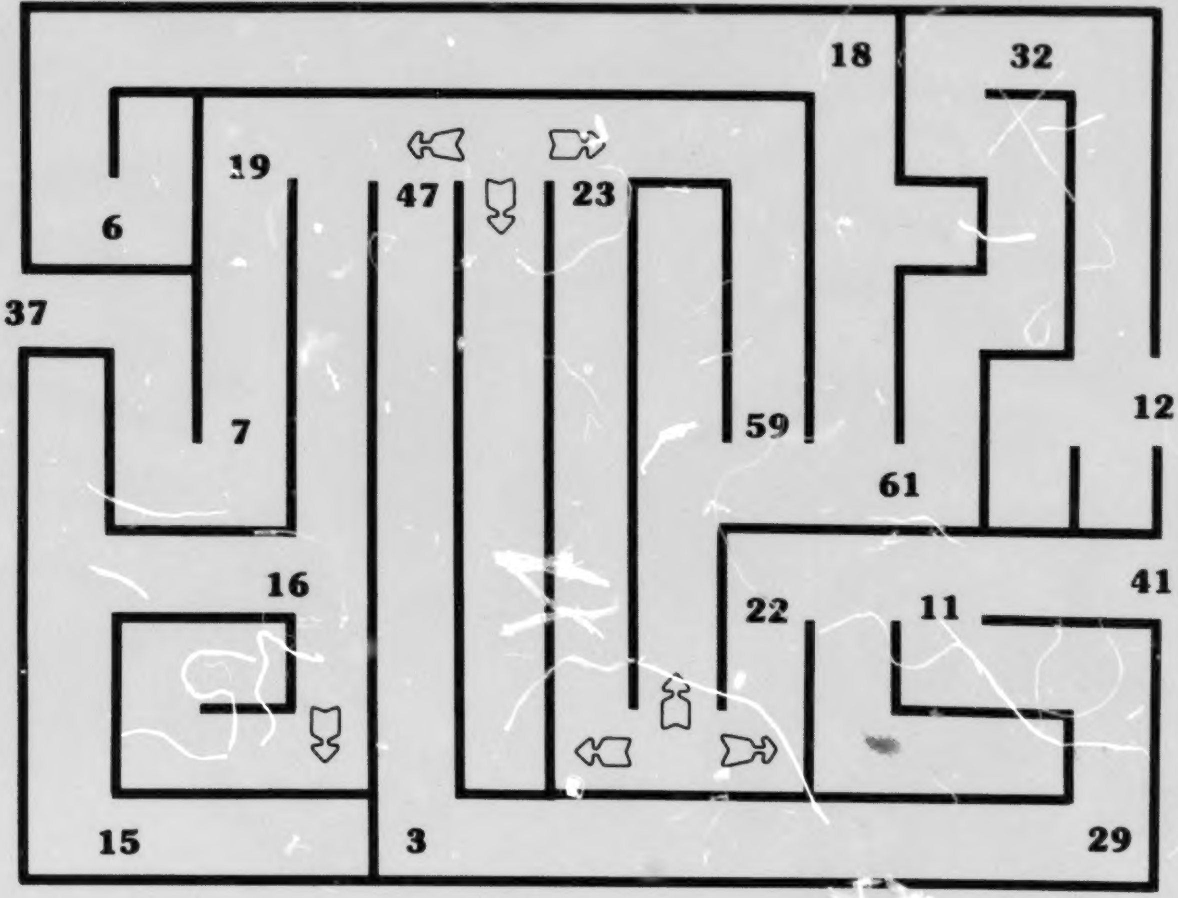
Skill #091
Even/Odd Numbers

Objective:
The student will identify a collection of numbers as "odd" or "even."

Directions:
Have each student find the surprise package by connecting the dots. He must follow the array of "odd" numerals, beginning with the lowest one.

Follow-up Activities:

1. Have the student connect the "even" numerals to find another surprise.
2. Have each student select one of the designs and decorate it.



Amazing Primes

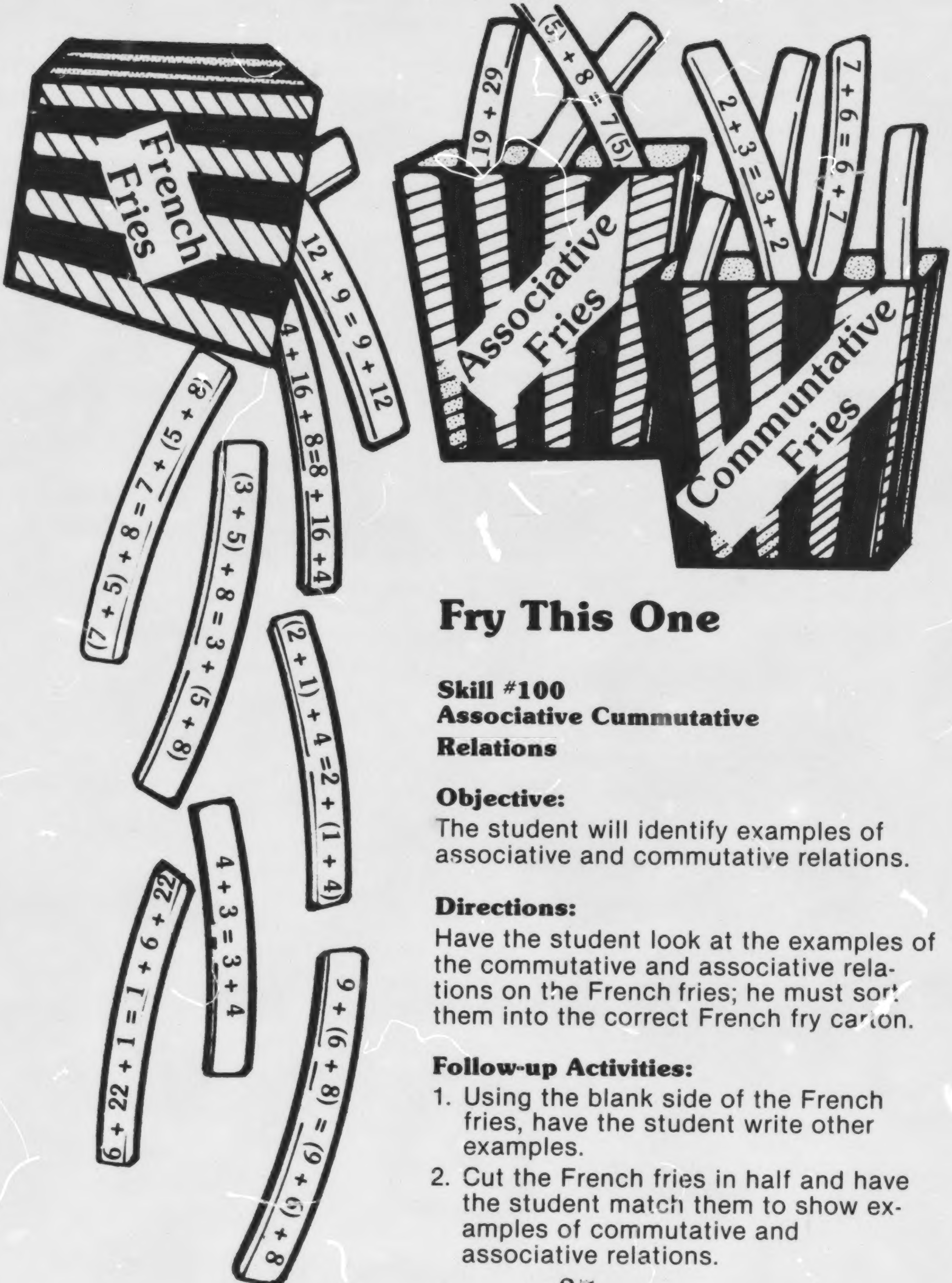
Skill #094
Composite Prime Numbers

Objective:
The student will identify the prime numbers.

Directions:
The student follows the consecutive list of prime numbers through the maze.

Follow-up Activities:

1. Each student wears a numeral and one is chosen to be "it." At a given signal, he must tag a person wearing a prime numeral.
2. Divide the students, wearing the numerals, into two teams. Play "Red Rover" in the traditional way, calling a prime numeral each time.


French Fries
Associative Fries
Communtative Fries
19 + 29
(5) + 8 = 7 (5)
2 + 3 = 3 + 2
7 + 6 = 6 + 7
12 + 9 = 9 + 12
4 + 16 + 8 = 8 + 16 + 4
(7 + 5) + 8 = 7 + (5 + 8)
(3 + 5) + 8 = 3 + (5 + 8)
(2 + 1) + 4 = 2 + (1 + 4)
4 + 3 = 3 + 4
6 + 22 + 1 = 1 + 6 + 22
9 + (6 + 8) = (9 + 6) + 8

Fry This One

Skill #100
Associative Cummutative Relations

Objective:

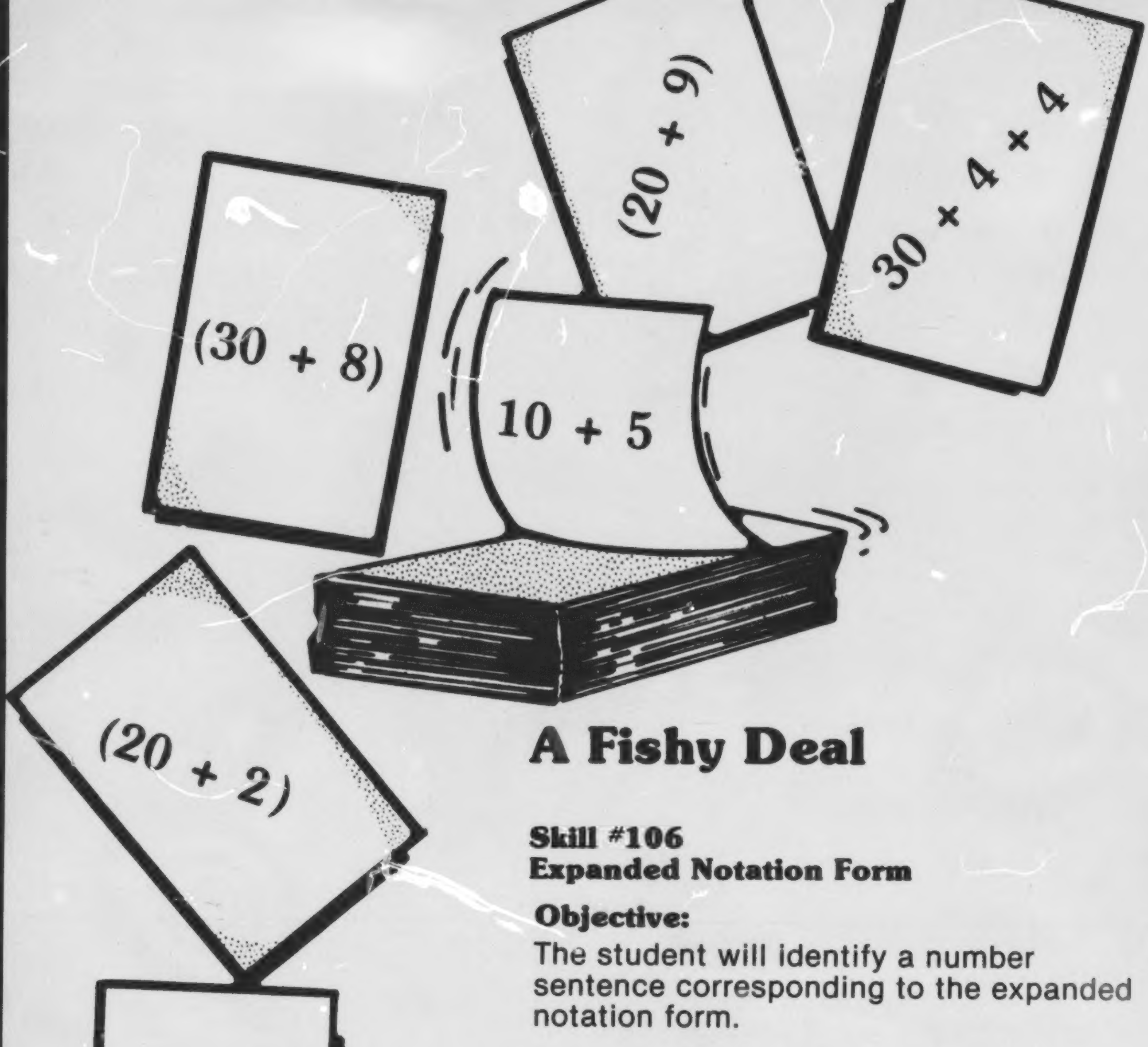
The student will identify examples of associative and commutative relations.

Directions:

Have the student look at the examples of the commutative and associative relations on the French fries; he must sort them into the correct French fry carton.

Follow-up Activities:

1. Using the blank side of the French fries, have the student write other examples.
2. Cut the French fries in half and have the student match them to show examples of commutative and associative relations.



A Fishy Deal

Skill #106
Expanded Notation Form

Objective:

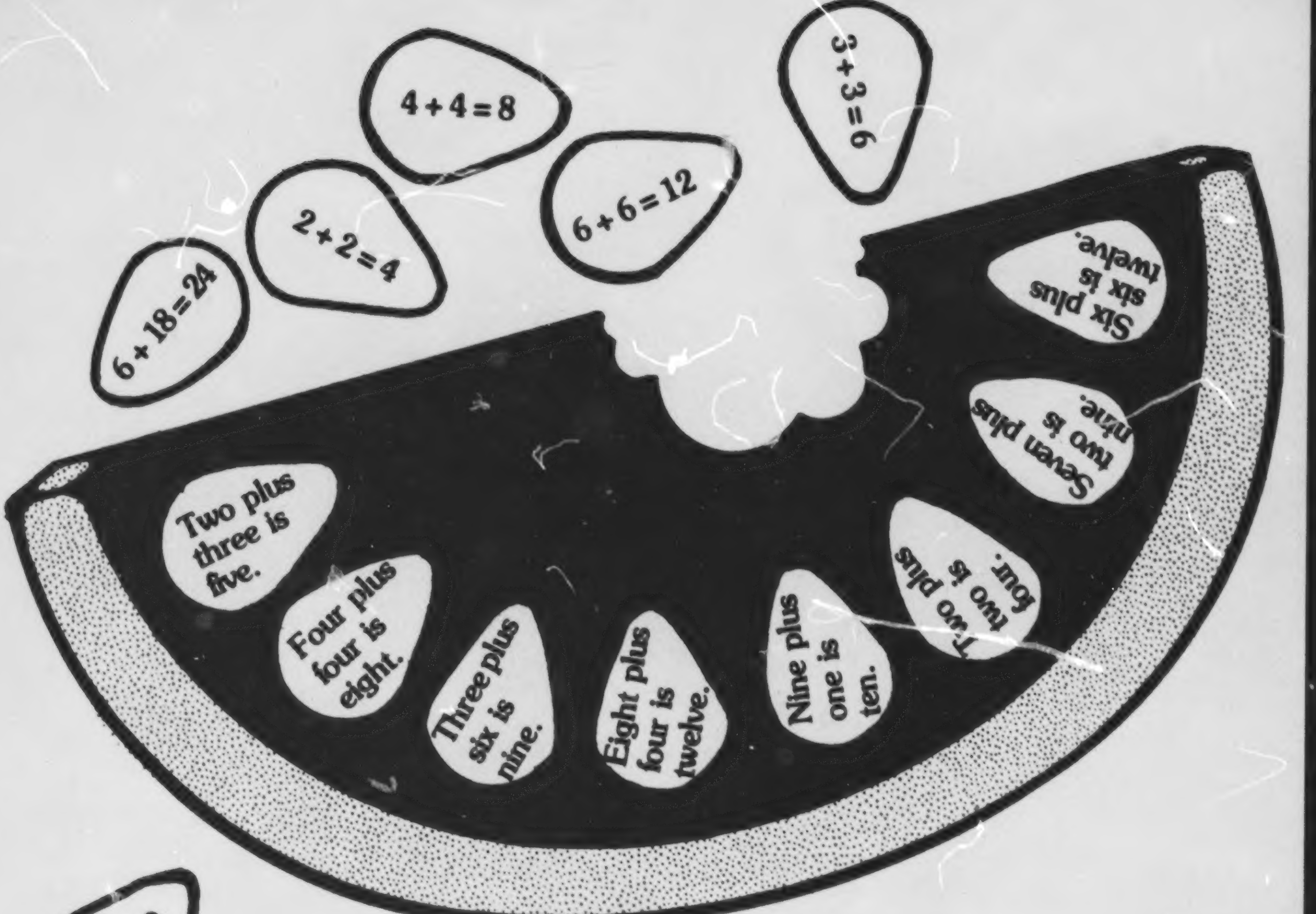
The student will identify a number sentence corresponding to the expanded notation form.

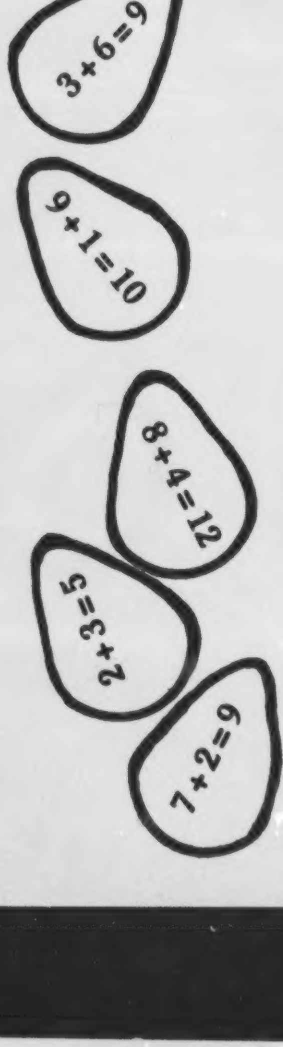
Directions:

The cards are dealt and the activity follows the traditional rules of "Fish." A pair is constituted by the players matching expanded notation solutions to addition problems.

Follow-up Activities:

1. Using the cards in the above activity, show them one at a time to the students and have them write the corresponding number sentence or expanded notation form on individual answer boards.
2. Place the cards face down and have the players proceed to match pairs as in the game of "Concentration."


4+4=8
3+3=6
6+6=12
2+2=4
6+18=24
Six plus six is twelve.
Seven plus two is nine.
Two plus three is five.
Four plus four is eight.
Three plus six is nine.
Eight plus four is twelve.
Nine plus one is ten.
Two plus two is four.


3+6=9
9+1=10
8+4=12
2+3=5
7+2=9

Seed the Solution

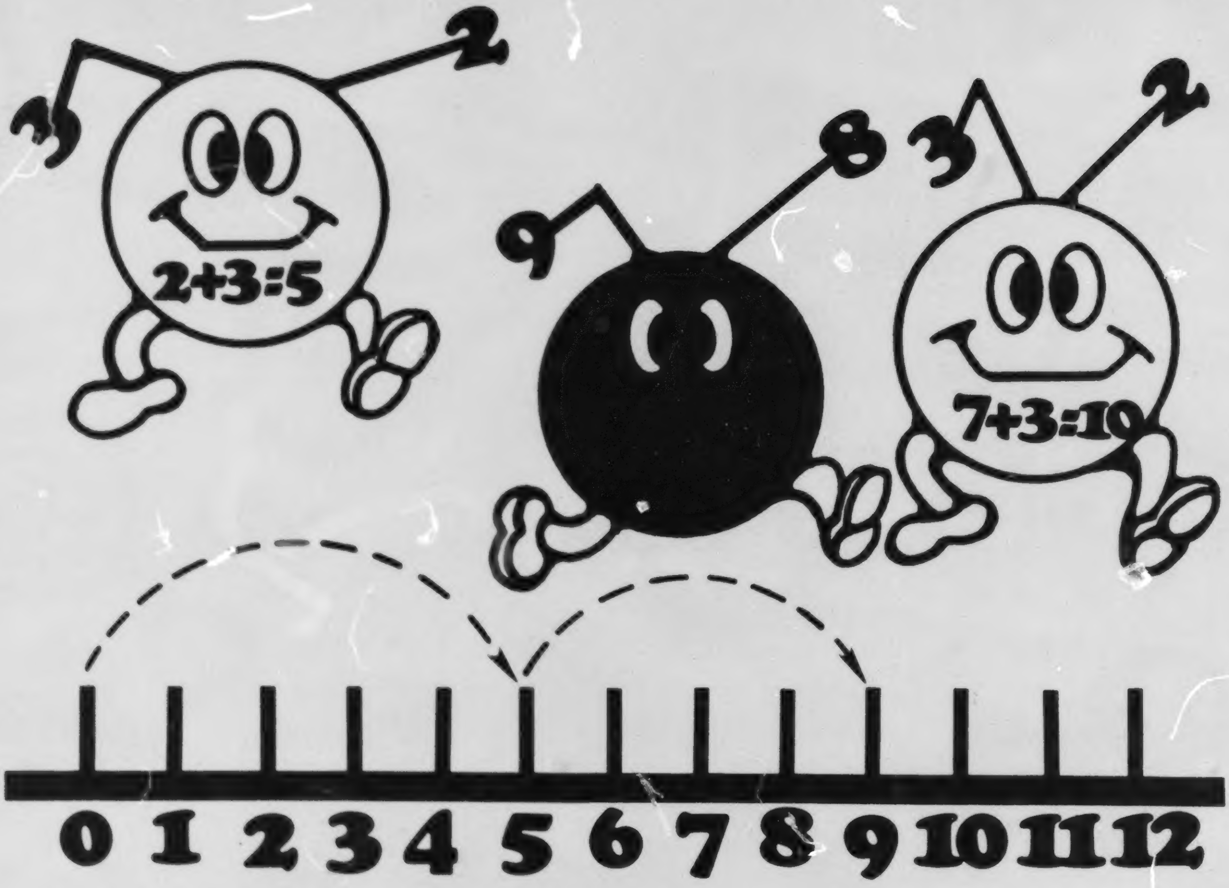
Skill #109
Using Word Names

Objective:
The student will match the number sentence with numerals to a sentence with word names.

Directions:
The student matches the numeral sentences to the word name sentences by placing the seeds in pairs.

Follow-up Activities:

1. Have the student make a shape book using the pattern above. On each page, have him write an equation and demonstrate it by gluing down real watermelon seeds.
2. Blindfold the student and have him identify each equation by touch.



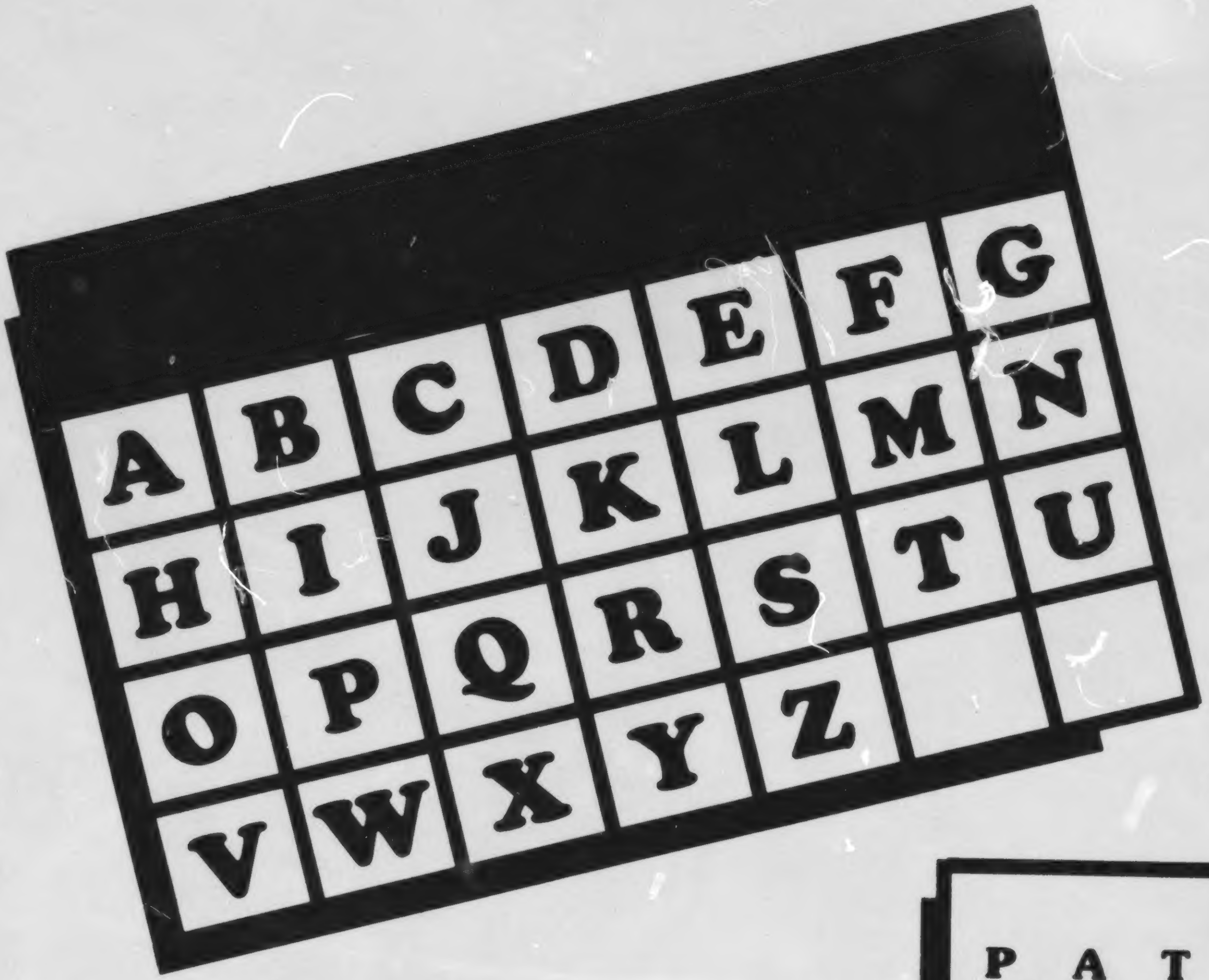
Digit Man Points the Way

Skill #115
On a Number Line

Objective:
The student will identify a number line expression of a number sentence.

Directions:
Using the number line, have the student illustrate each problem written on "Digit Man." An example is given.

Follow-up Activities:
1. Have the students construct a number line, using a chair to represent each point.
2. Using the number line in follow-up one, a student places a marker in each chair that represents a point in a given equation.


A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z

P **A** **T**
22¢ **7¢** **9¢**

Pat
cost 38¢

The Price Is Right

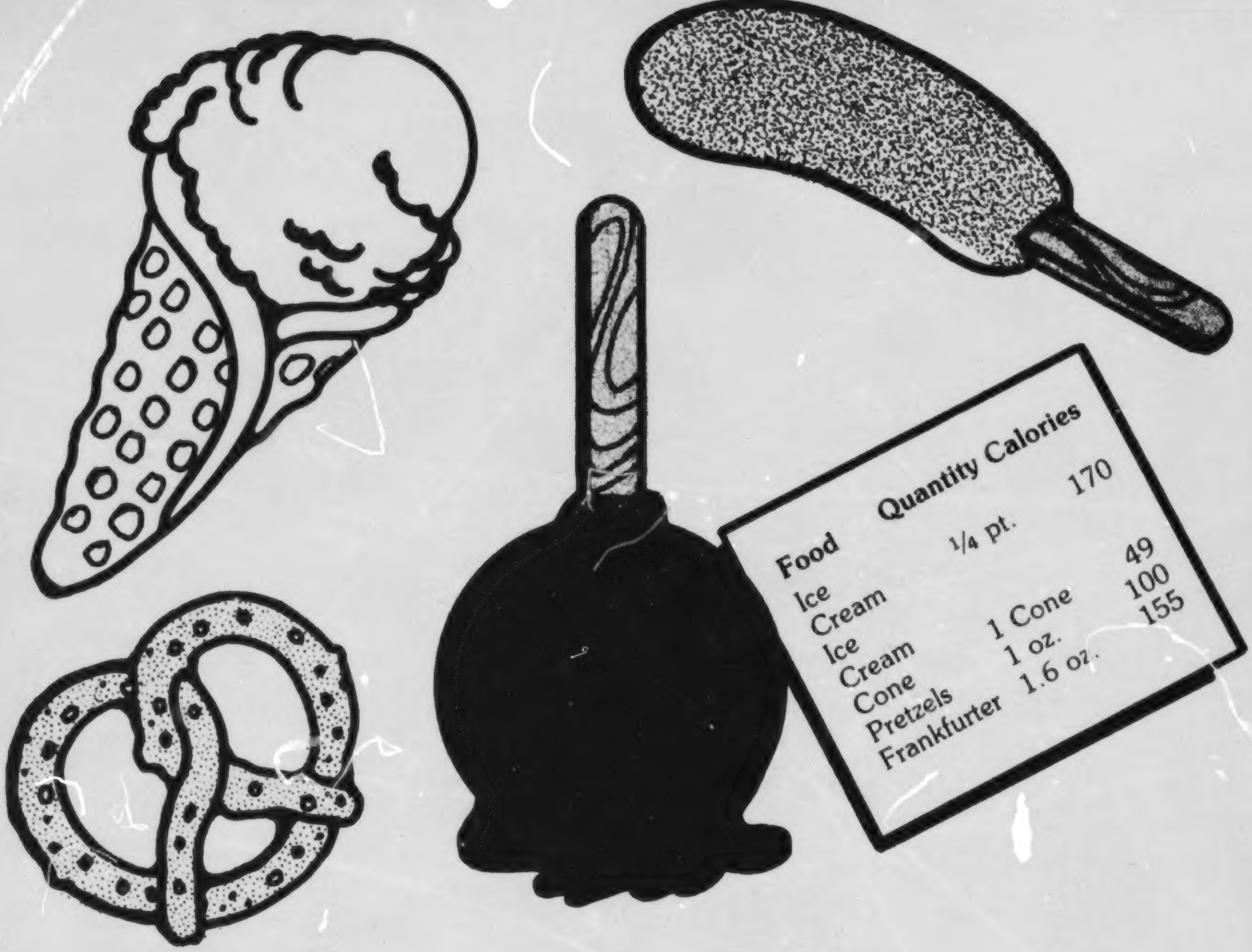
Skill #127
Multiple Addends (Regrouping)

Objective:
The student will compute the sum.

Directions:
Have the student find the value of each letter in his name and compute the sum.

Follow-up Activities:

1. Have the students compute the total value of girls' and boys' names.
2. Have the students find the difference between any two classmates' names.



Food	Quantity	Calories
Ice Cream	1/4 pt.	170
Ice Cream Cone	1 Cone	49
Pretzels	1 oz.	100
Frankfurter	1.6 oz.	155

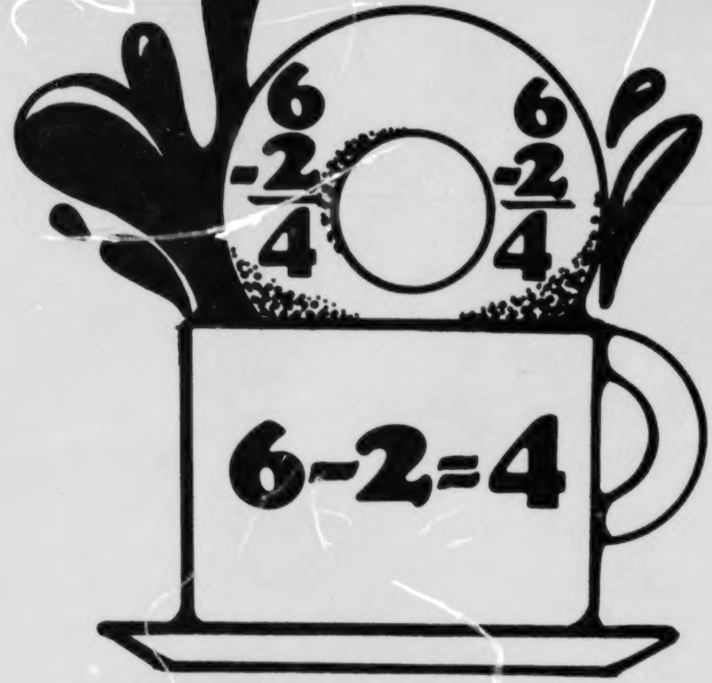
You Are What You Eat

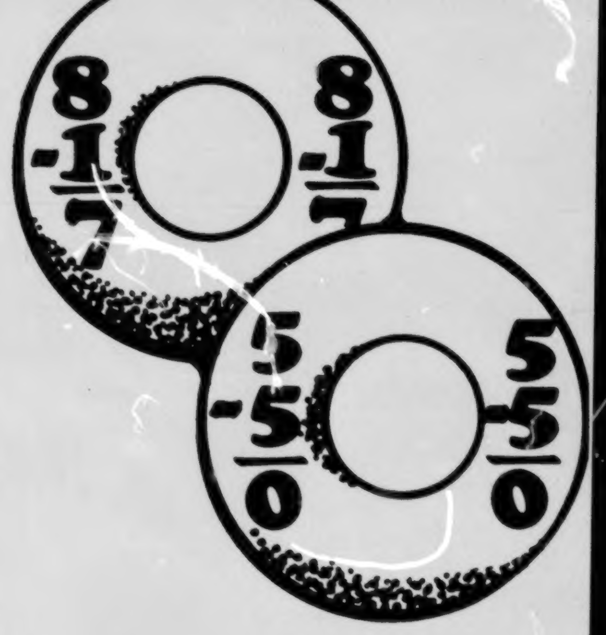
Skill #127
Multiple Addends (Regrouping)

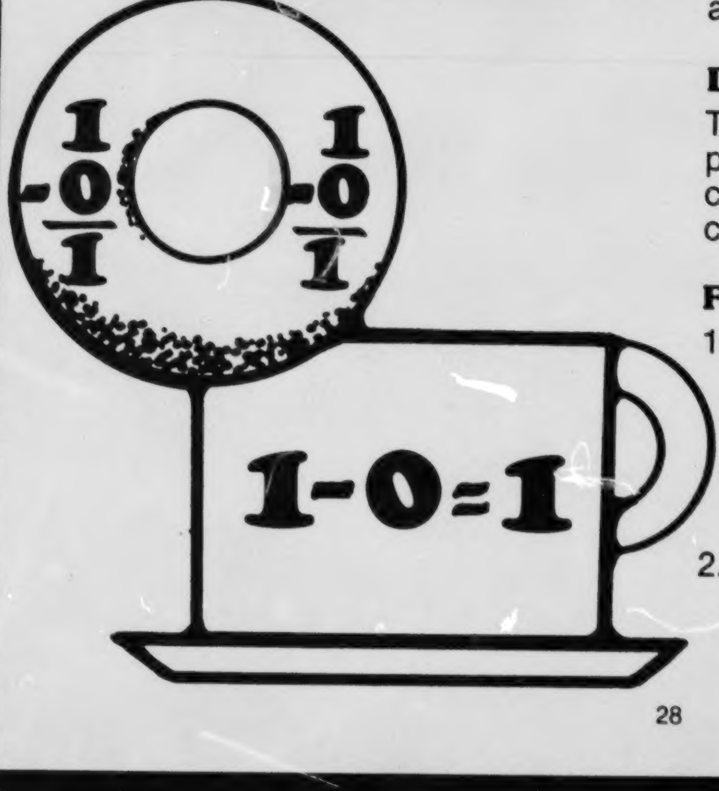
Objective:
The student will identify the sum.

Directions:
Have each student keep a record of his daily intake of food. Give him a copy of a calorie guide and have him list the number of calories in every item on his daily record. Have him total his daily intake.

Follow-up Activities:
1. Have the student plan a daily menu totaling 1600 calories, using the four basic food groups.
2. Have the student keep a calorie journal of his daily intake for one week.







"Dunkin" Doughnuts

Skill #133
Vertical Form

Objective:

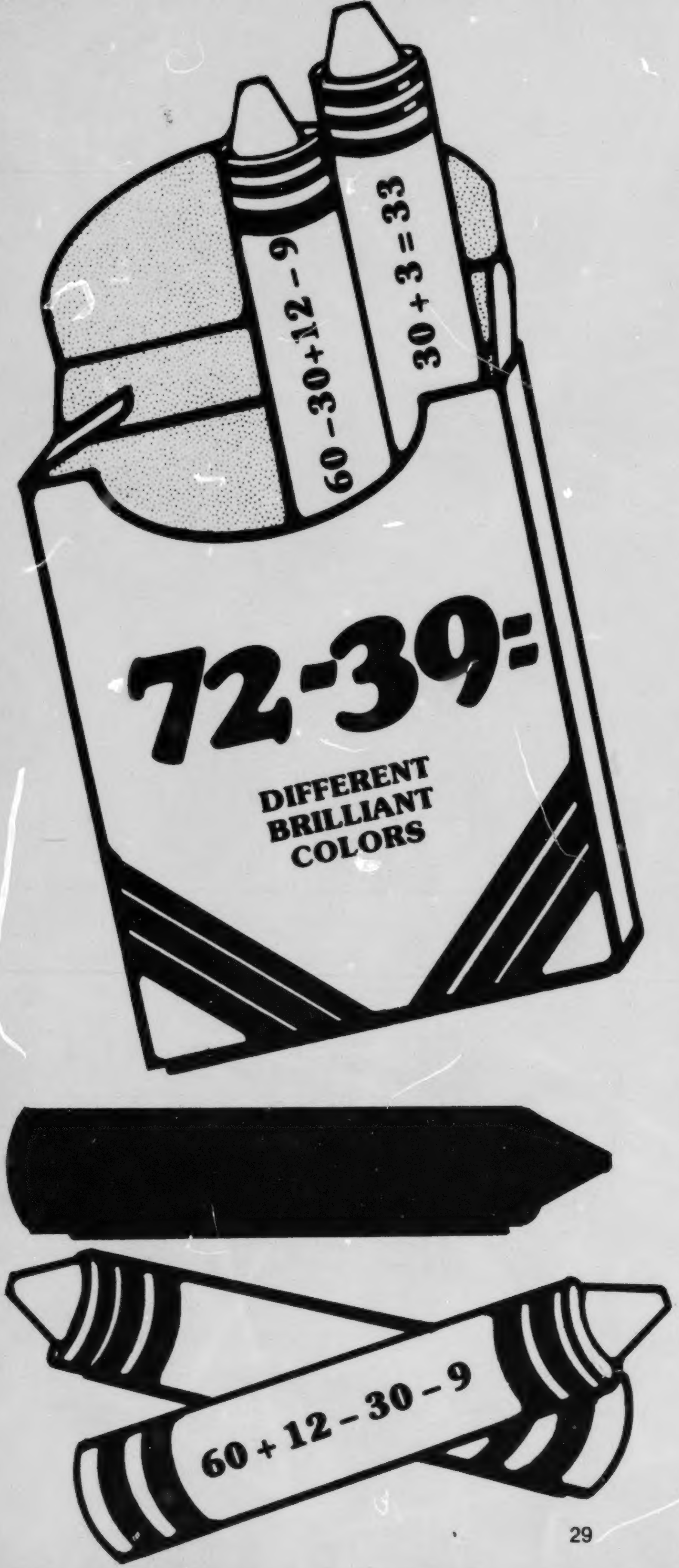
The student will identify subtraction problems in corresponding vertical and horizontal form.

Directions:

The student reads the subtraction problem on the doughnut and matches it to the horizontal form on the coffee cup.

Follow-up Activities:

1. Prepare additional doughnuts with horizontal problems, corresponding to the ones in the activity. Have the student sort them into two coffee cups labeled "vertical" and "horizontal."
2. Shuffle the doughnuts from follow-up one and have the students sort them into matching pairs.



A Colorful Expansion

Skill #144
Expanded Notation
Solution (Regrouping)

Objective:

The student will identify an expanded notation solution to a subtraction sentence.

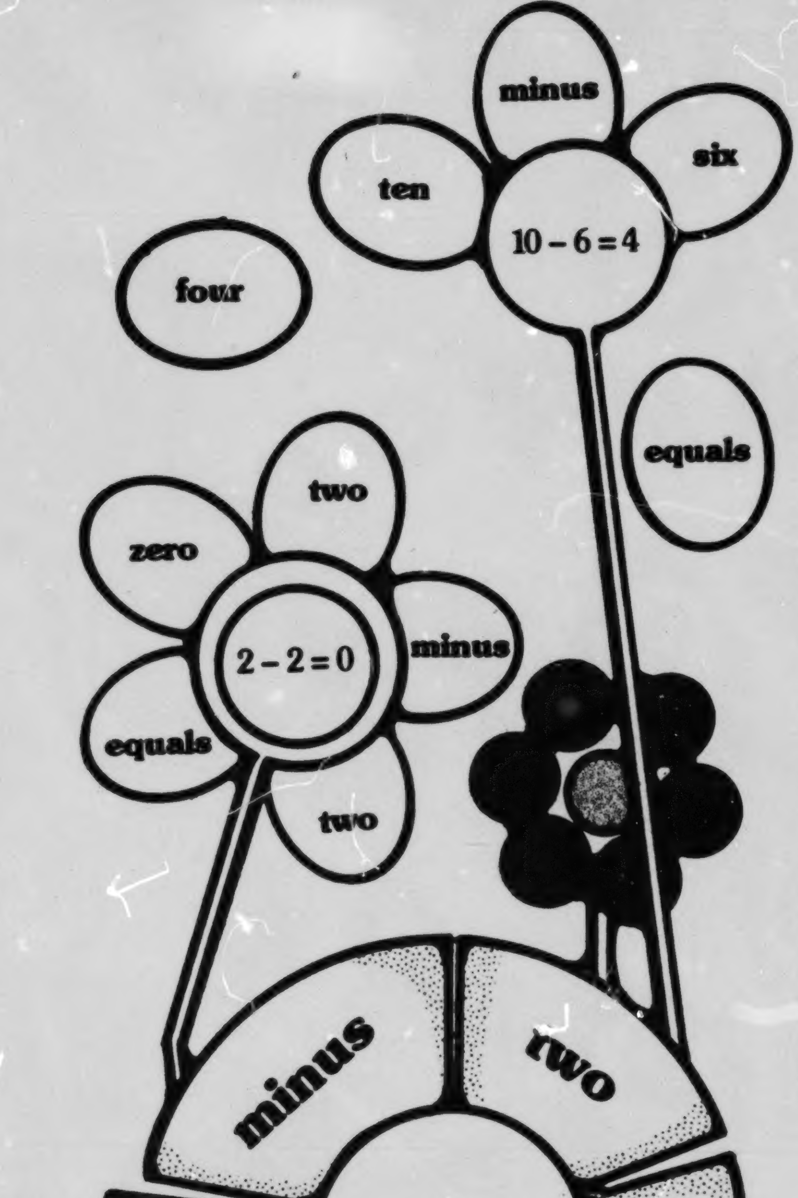
Directions:

The student is given a box of blank crayons with a number sentence written on the outside of the crayon box. On each crayon, he must write a solution in expanded notation form.

Follow-up Activities:

1. After completing several boxes, shuffle the crayons and have the students sort them into the proper boxes.
2. Distribute the crayons among the students. At a given signal, the students will form groups, according to the number sentences they represent.

2130 WHOLE NUMBERS


minus
ten
six
10 – 6 = 4
four
equals
two
zero
2 – 2 = 0
minus
equals
two
minus
two
6 – 2 = 4
six
equals
four

Bloomin' Numerals

Skill #150
Using Word Names

Objective:

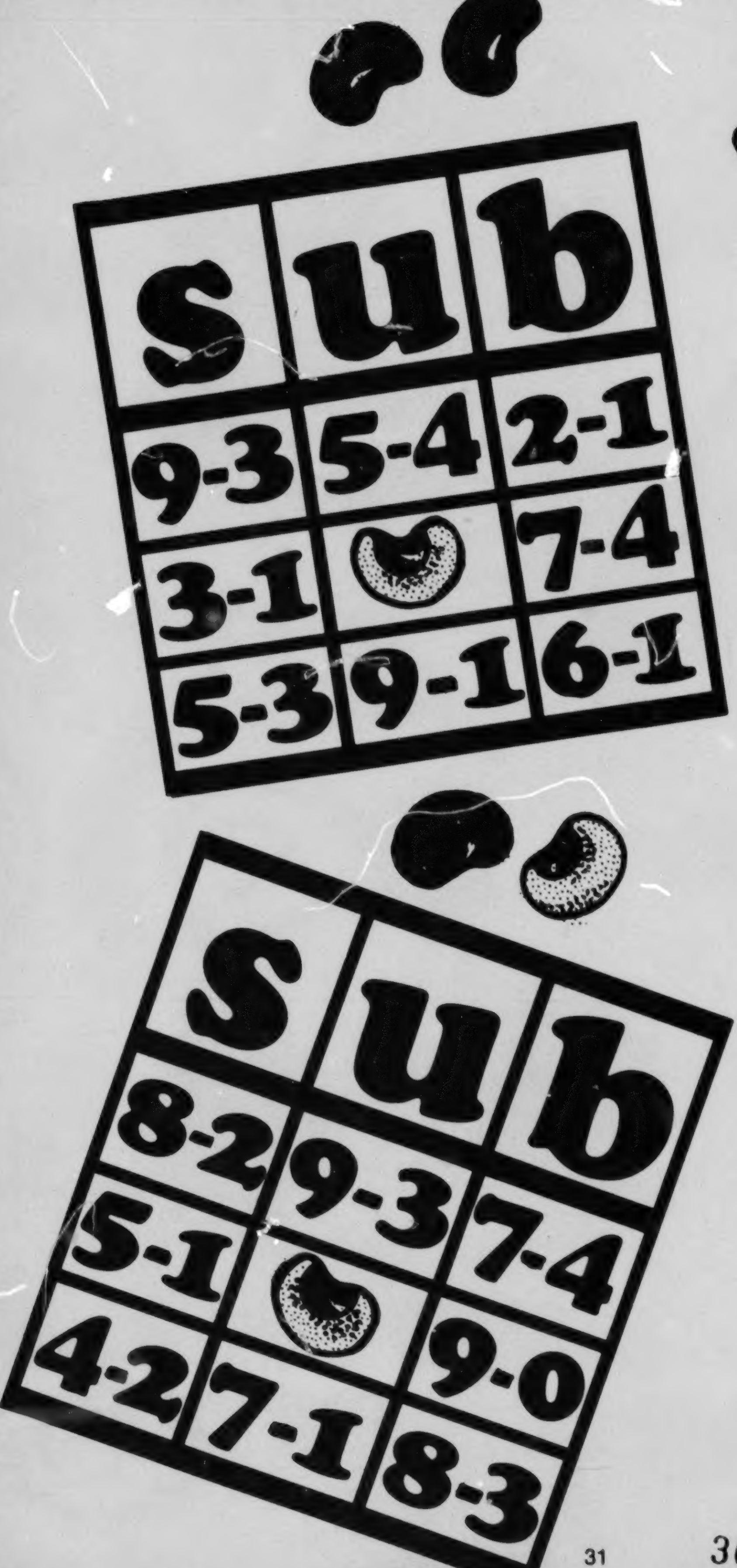
The student will match word names to a subtraction number sentence.

Directions:

The student is given the center of a flower with a number sentence on it. He selects the petals that correspond to the center.

Follow-up Activities:

1. Using the same materials from the above activity, remove the number sentence from the center. Have the students give each flower a new center and write the corresponding equation.
2. Have the students create an equation garden by potting the flowers.



"Bean" Go

Skills #153-156
Computation Involving Regrouping and No Regrouping

Objective:

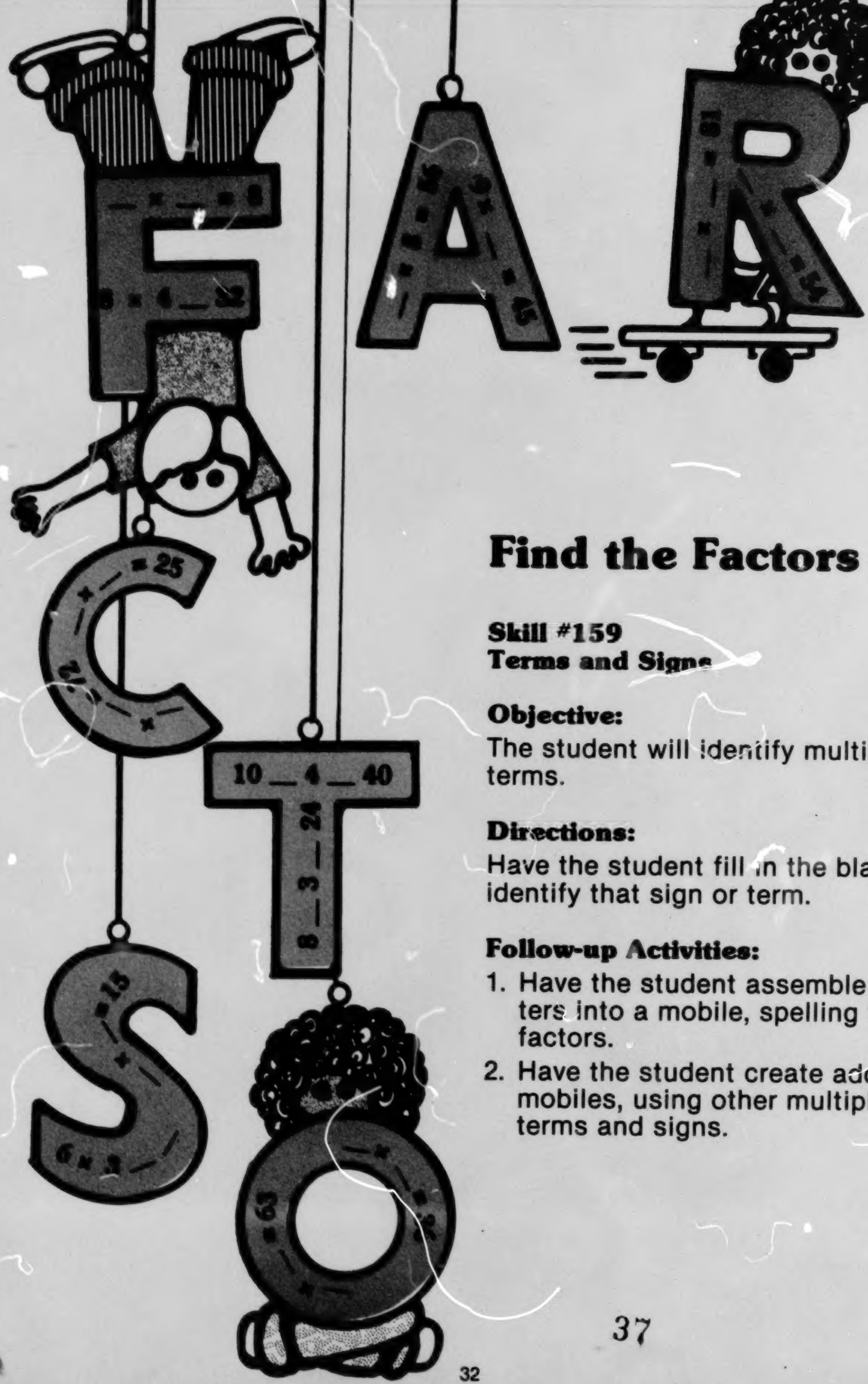
The student will compute the difference.

Directions:

The activity follows the traditional rules of "Bingo." The answers are called out and the student covers the correct problem with a bean.

Follow-up Activities:

1. Play the same activity, using cards with answers; have the instructor call out the problems.
2. Using the original "Bean-go" cards, have the student indicate the answers by placing the correct number of beans on each square.



Find the Factors

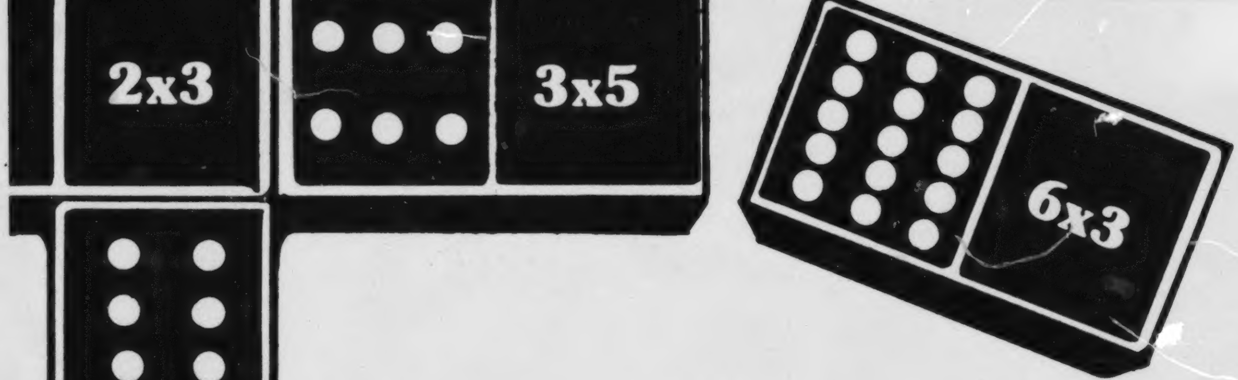
Skill #159
Terms and Signs

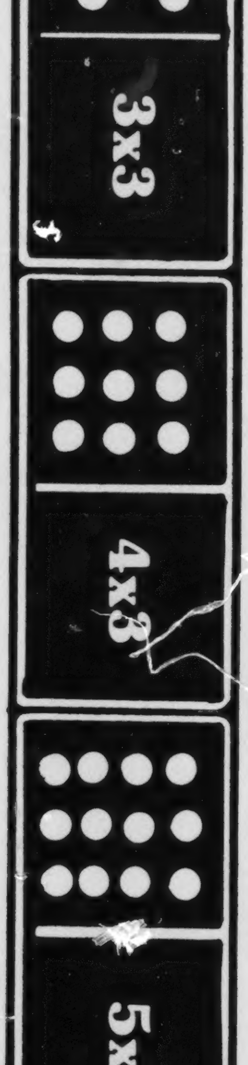
Objective:
The student will identify multiplication terms.

Directions:
Have the student fill in the blanks and identify that sign or term.

Follow-up Activities:

1. Have the student assemble the letters into a mobile, spelling the word factors.
2. Have the student create additional mobiles, using other multiplication terms and signs.





Dot Spot

Skill #165
Represented by Physical Models

Objective:

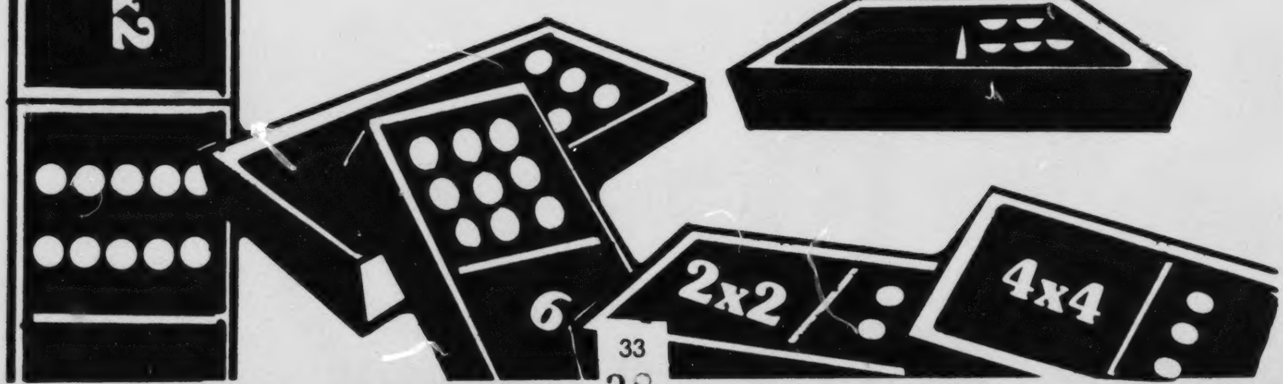
The student will match arrays and multiplication problems.

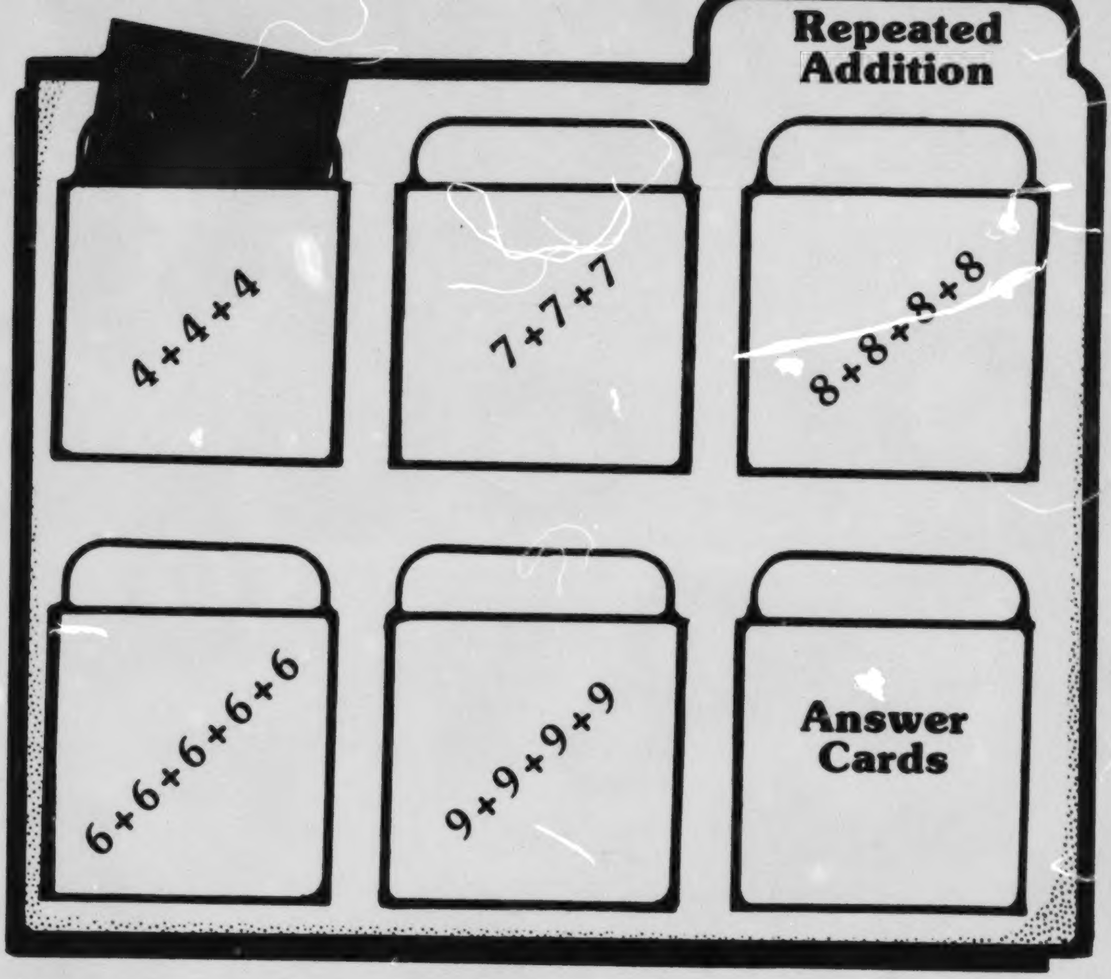
Directions:

Arrange the dominoes in a pattern so that each multiplication problem is aligned with its corresponding array of dots.

Follow-up Activities:

1. Have the student compute the product for each problem.
2. On a square of construction paper, the student must write a multiplication sentence and create its array by using a hole punch.





Repetition Addition

Skill #171
Repeated Addition Sentences

Objective:

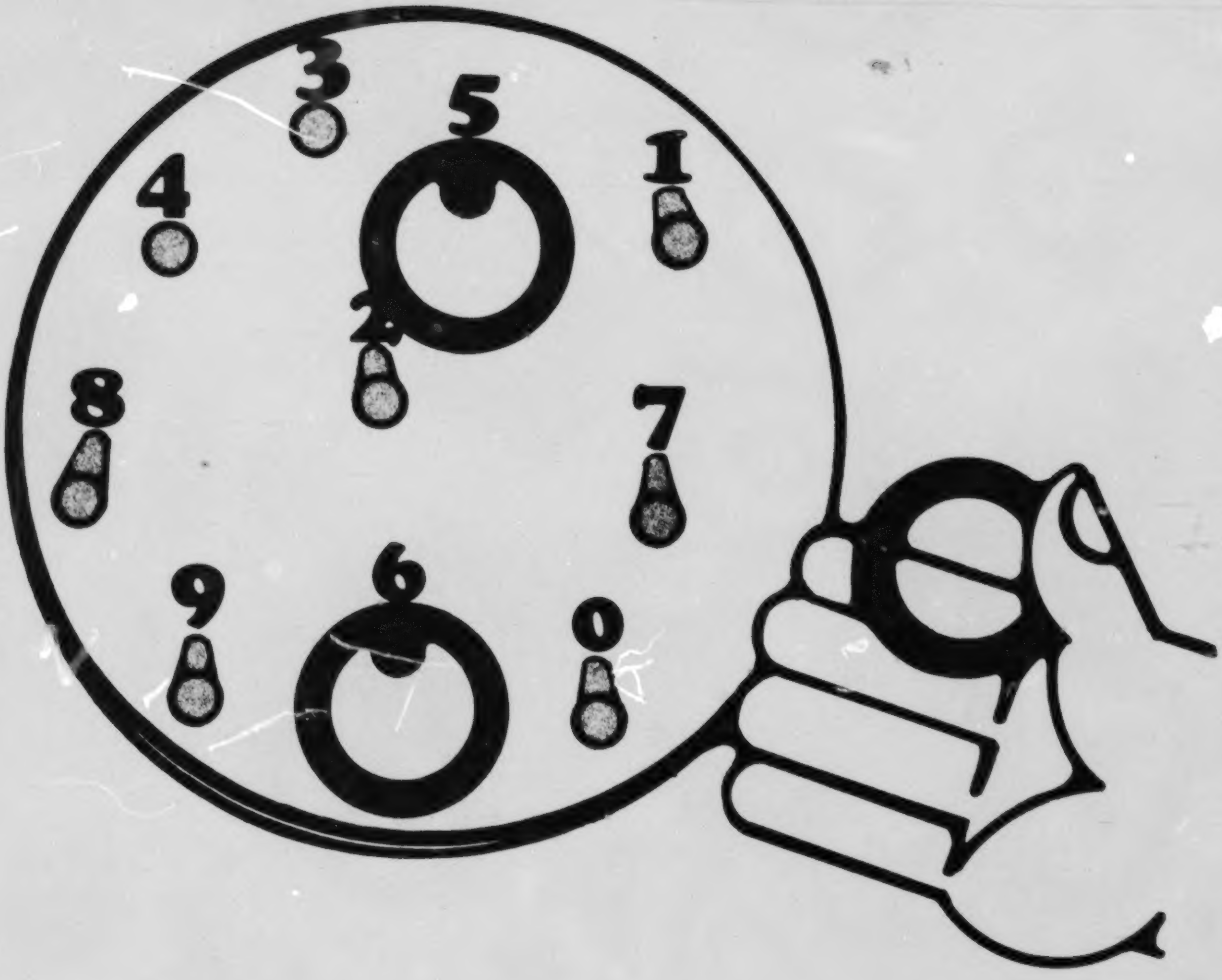
The student will identify a repeated addition sentence representing the multiplication problem

Directions:

The student matches the correct multiplication problem to the repeated addition sentence.

Follow-up Activities:

1. Have the student write another repeated addition sentence for each problem in the activity.
2. Shuffle the cards from the activity and the first follow-up, have the student put them in matched pairs.



Ring Dinger

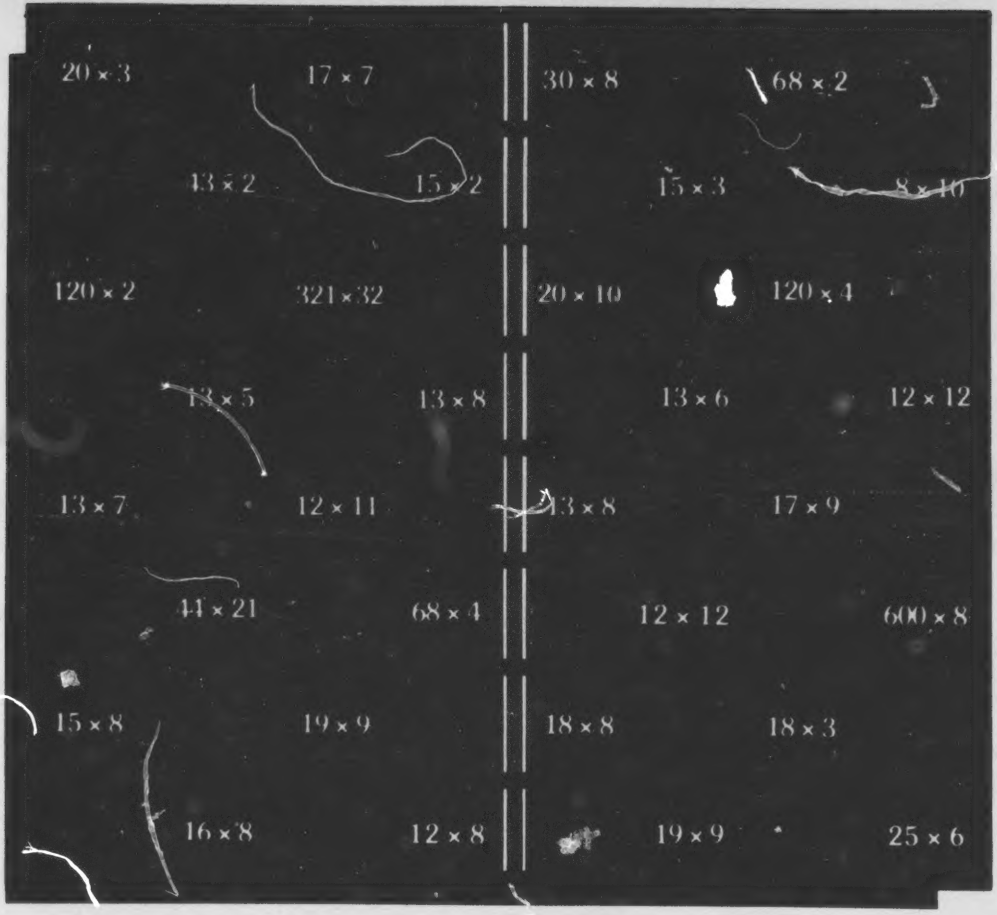
Skill #180
Basic Facts

Objective:
The student will compute a product.

Directions:
Each player rings two digits and computes the product for his score.

Follow-up Activities:

1. Beginning with *one*, the student rings each digit in order with the fewest possible attempts. He multiplies the number of attempts by that digit for his score. The student with the lowest score wins.
2. Assign each student a one-digit numeral. As a product is displayed, two students, representing its factors, stand.


20 × 3
17 × 7
30 × 8
68 × 2
43 × 2
15 × 2
15 × 3
8 × 10
120 × 2
321 × 32
20 × 10
120 × 4
13 × 5
13 × 8
13 × 6
12 × 12
13 × 7
12 × 11
13 × 8
17 × 9
44 × 21
68 × 4
12 × 12
600 × 8
15 × 8
19 × 9
18 × 8
18 × 3
16 × 8
12 × 8
19 × 9
25 × 6

Checkered Computation

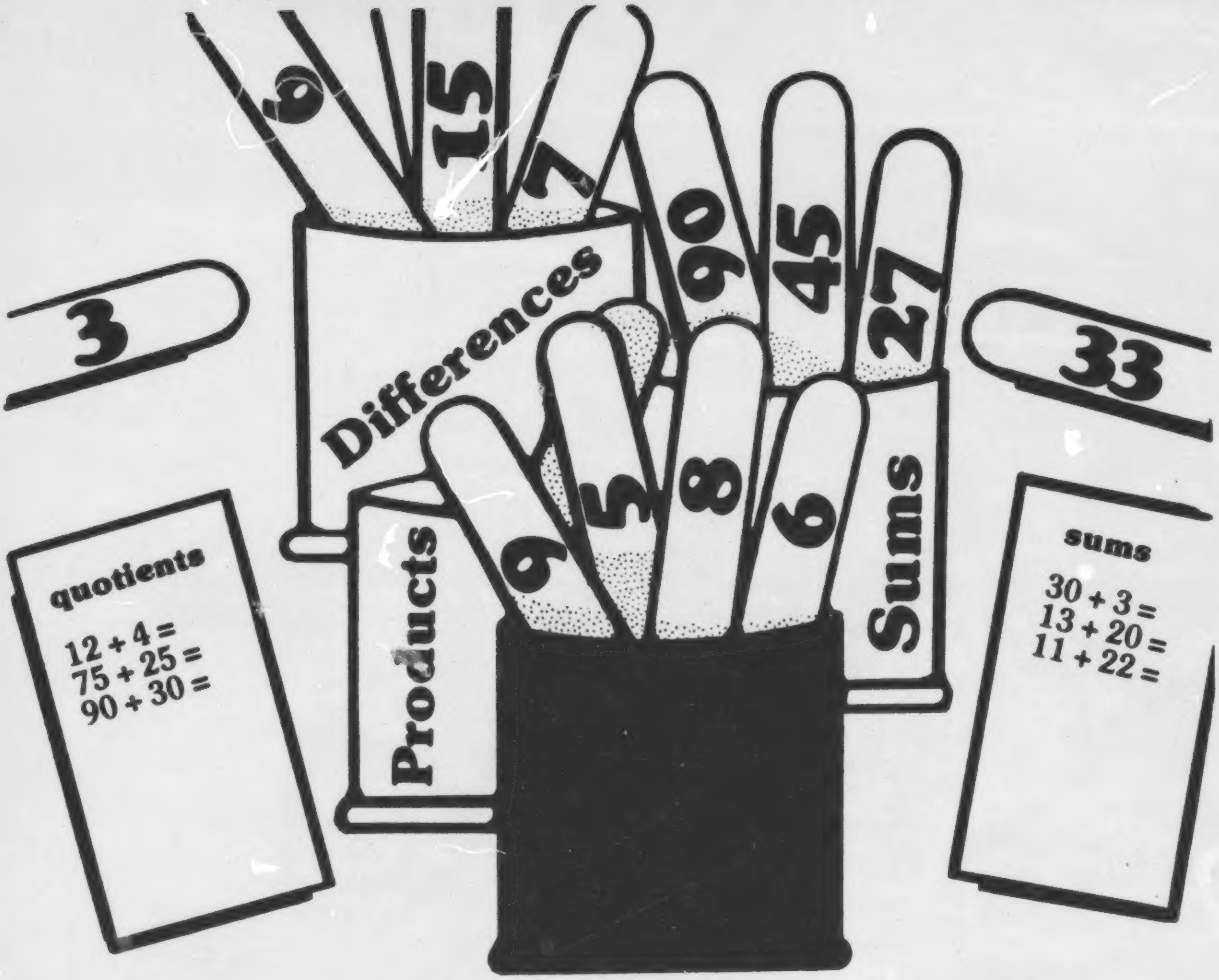
Skills #183, 186
Involving Grouping and No Regrouping

Objective:
The student will compute a product.

Directions:
Check computation is played by writing problems on a traditional checkerboard and answers on the checkers. Checkers are divided between two students. In alternating turns, each student matches an answer to a problem. The first student to use all his checkers wins.

Follow-up Activities:

1. Using the blank side of the checkers, have the student play the game in the traditional way. The correct answer must be given before a play can be made.
2. Have the student put a red checker on the problems involving "no regrouping" and a black checker on those involving "regrouping."


9
15
7
90
45
27
3
33
Differences
Products
Sums
9
5
8
6
quotients
12 ÷ 4 =
75 ÷ 25 =
90 ÷ 30 =
sums
30 + 3 =
13 + 20 =
11 + 22 =

Canned Problems

Skills #121, 153, 183, 210
Addition, Subtraction, Multiplication and Division of Whole Numbers

Objective:
The student will write problems corresponding to given sums, differences, quotients, and products.

Directions:
Each student is given one can and must supply as many corresponding problems as possible in three minutes.

Follow-up Activities:

1. Let one student read his problems one at a time and let the other student select the appropriate answer stick.
2. Mix the answer sticks and, using the written problems, have the students sort the sticks into the appropriate cans.

How many 16's can you subtract from 48?

The "Eight" has gone crazy again...Miss 1 turn.

How many 22's in 66?

Miss 1 turn to hear the "Eight's" joke!

How many 12's can you subtract from 60?

How many 5's can you subtract from 40?

The Crazy "Eight"

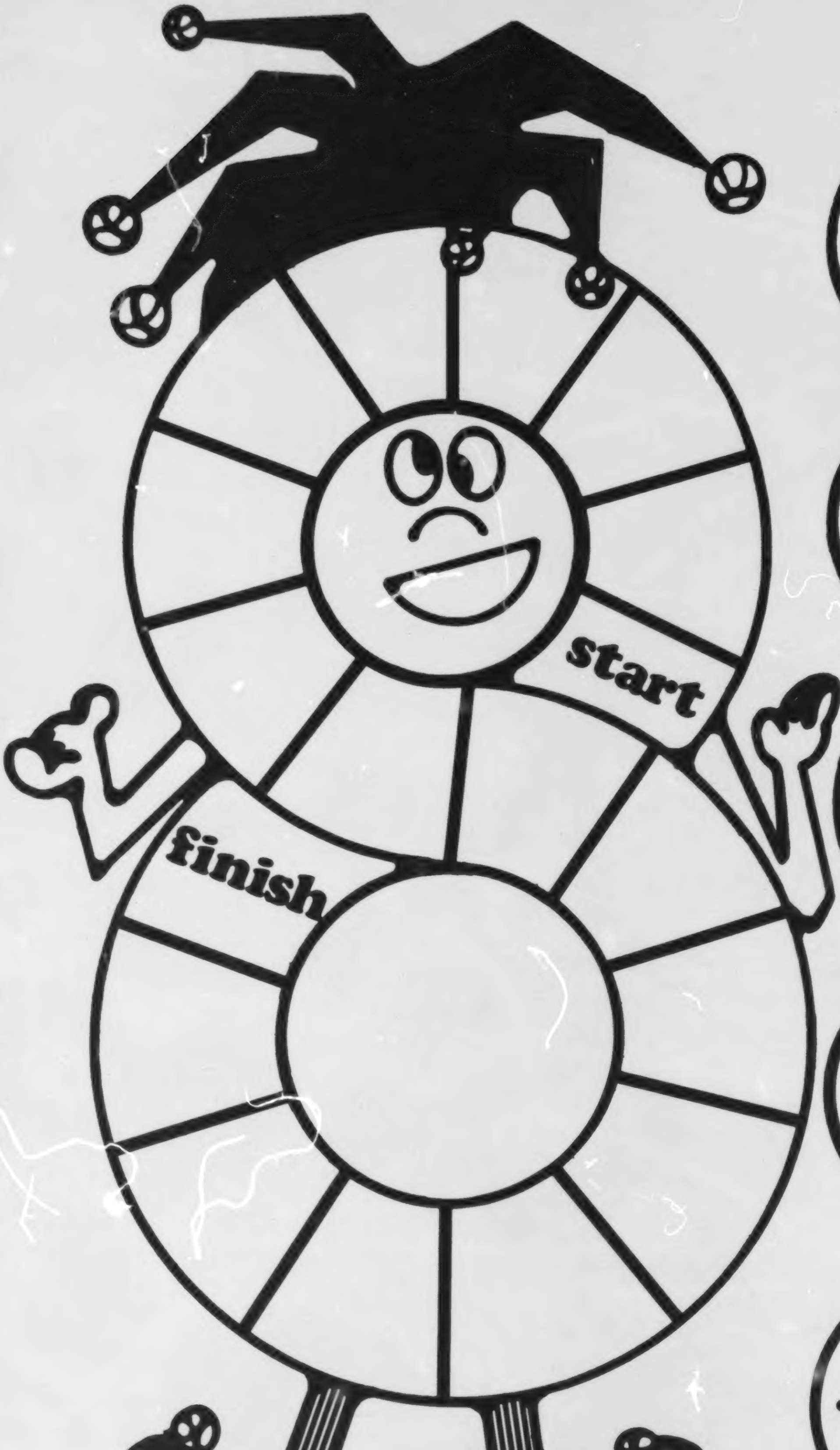
Skill #192
As Repeated Subtraction

Objective:

The student will identify the operational equivalent of division and subtraction.

Directions:

In alternating turns, each student draws a subtraction problem card and gives its equivalent division sentence. The student moves ahead one space for each correct answer and two spaces for an answer card that contains an eight. If answered incorrectly, the card is returned to the deck.



How many 12's can you subtract from 60?

How many 7's can you subtract from 21?

How many 9's can you subtract from 27?

How many 13's can you subtract from 39?

How many 12's can you subtract from 48?

Due to our players' abilities, they will be playing only 6 holes.

First Annual Migrant Open

Skill #201
As Multiples of 10

Objective:
The student will identify the largest multiple of 10, which, when multiplied by the divisor, is less than or equal to the dividend.

Directions:
The student is given dice to play holes one through six. He reads the problem on each hole, works it, and moves on to the next.

The student rolls the dice and adds the number showing to determine the divisor. Using 499 as the dividend, he must give the largest multiple of 10, which, when multiplied by the divisor, is less than or equal to the dividend; for example, 499 ÷ 9 = 56.

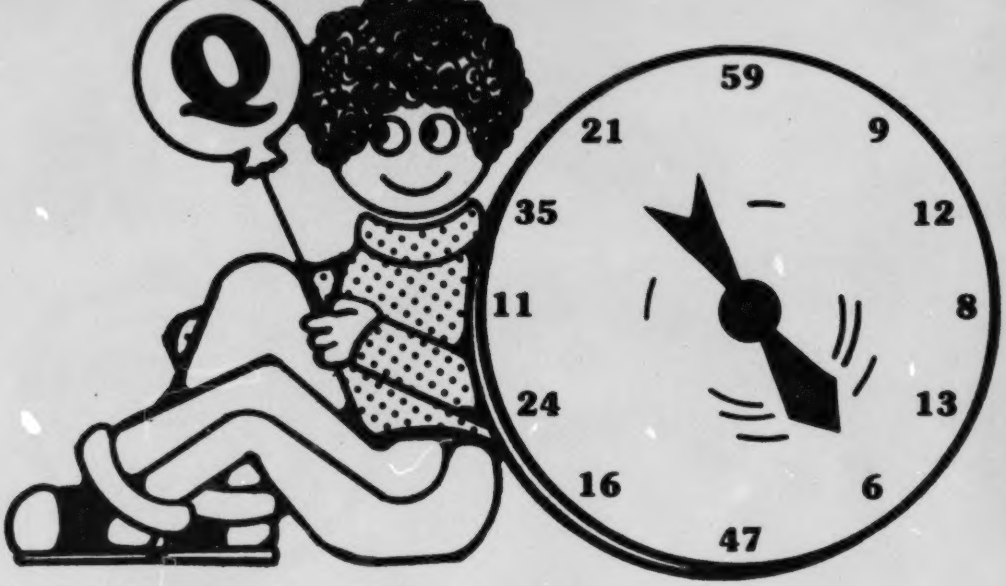
The student rolls the dice and adds the number showing to determine the divisor. Using 250 as the dividend, he must give the largest multiple of 10, which, when multiplied by the divisor, is less than or equal to the dividend.

The student rolls the dice and adds the number showing to determine the divisor. Using 555 as the dividend, he must give the largest multiple of 10, which, when multiplied by the divisor, is less than or equal to the dividend.

The student rolls the dice and adds the number showing to determine the divisor. Using 1229 as the dividend, he must give the largest multiple of 10, which, when multiplied by the divisor, is less than or equal to the dividend.

The student rolls the dice and adds the number showing to determine the divisor. Using 929 as the dividend, he must give the largest multiple of 10, which, when multiplied by the divisor, is less than or equal to the dividend.

The student rolls the dice and adds the number showing to determine the divisor. Using 590 as the dividend, he must give the largest multiple of 10, which, when multiplied by the divisor, is less than or equal to the dividend.



Quotient Quorum

Skill #210
Multiple Digit Divisor or Dividend Remainder = 0

Objective:
The student will compute a quotient.

Directions:
Each student receives a quotient card with the same division problems but in different locations. In alternating turns, each student spins the spinner and the number the spinner lands on is the quotient for one of the division problems. Each time a student gets one quotient on the row, he crosses out the letter at the top. The first student to "quotient" is the winner.

Follow-up Activities:
1. Using the same format in the above activity, have the students play a version of "blackout," covering all squares to win.
2. Have the students supply a new problem for each quotient on which the spinner lands.

Q	U	O	T	I	E	N	T
2/12	4/36	8/88	2/42	3/24	3/48	4/96	8/96
6/72	2/94	2/70	30/180	4/52	3/141	3/177	7/84

Mr. Remainder

Skill #213
Multiple Digit Divisor
or Dividend Remainder

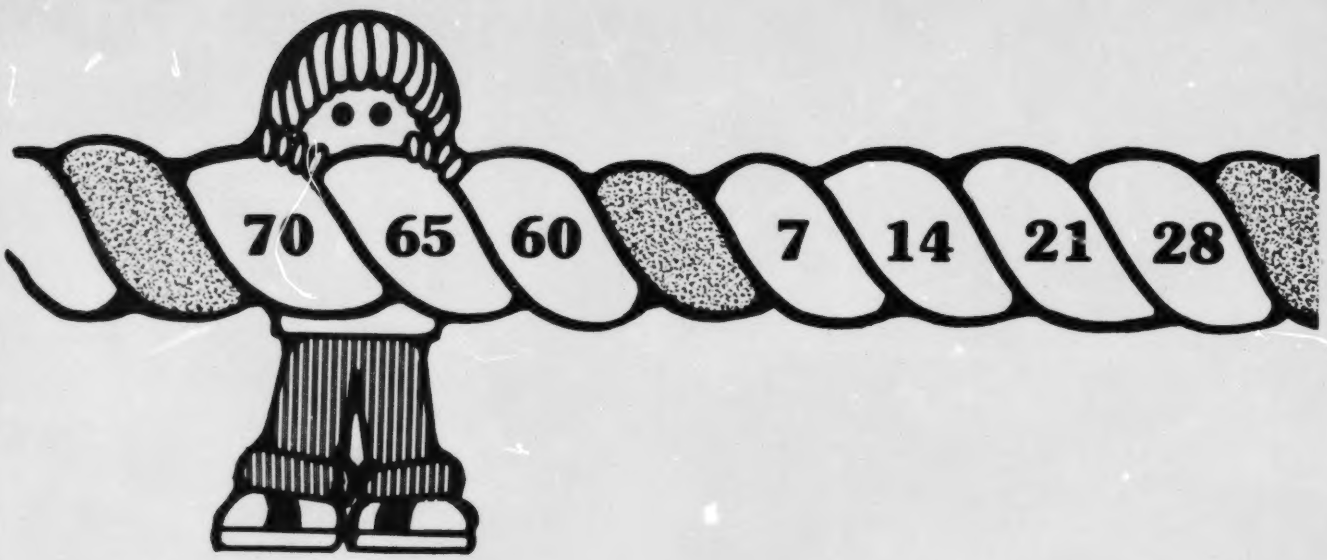
Objective:
The student will compute a quotient.

Directions:
Each student tosses a button, and works the problem on which it lands. Using the remainder as his score, the first student to reach twenty wins.

Follow-up Activities:

1. Instruct each student to select a problem from the activity board and give a word problem that it illustrates.
2. Demonstrate visual representation of division with remainders by using an odd number of buttons distributed among an even number of students.

Subtract 4 points	7/3851	Subtract 3 points	37/189
U miss this turn	53/372	Take an extra turn	5/5003
17/6448	48/5773	5/5307	9/6308
Add 1 point	9/5837	U miss this turn	7/3851
71/500	13/92	37/189	5/16
4/1586	Add 1 point	69/560	Subtract 5 points
Subtract 2 points	10/45567	Just sit here	70/88776



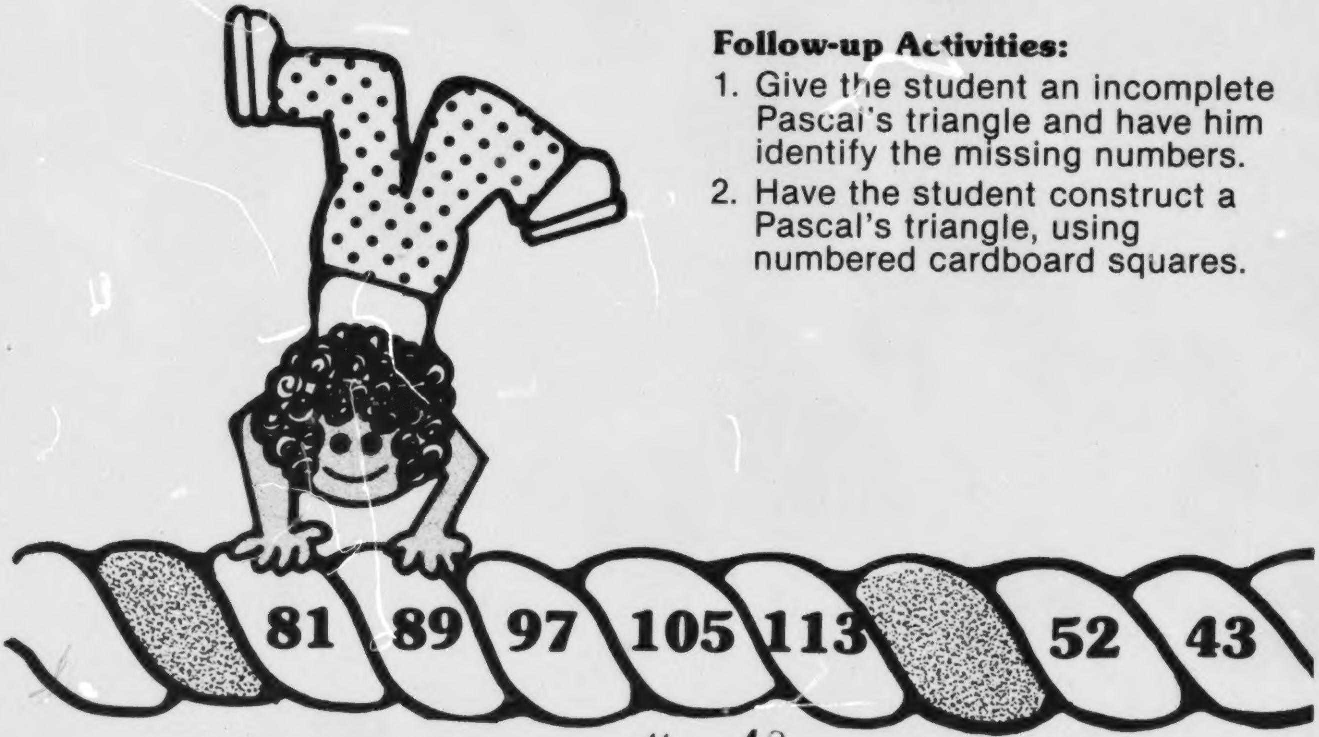
Addition Acrobats

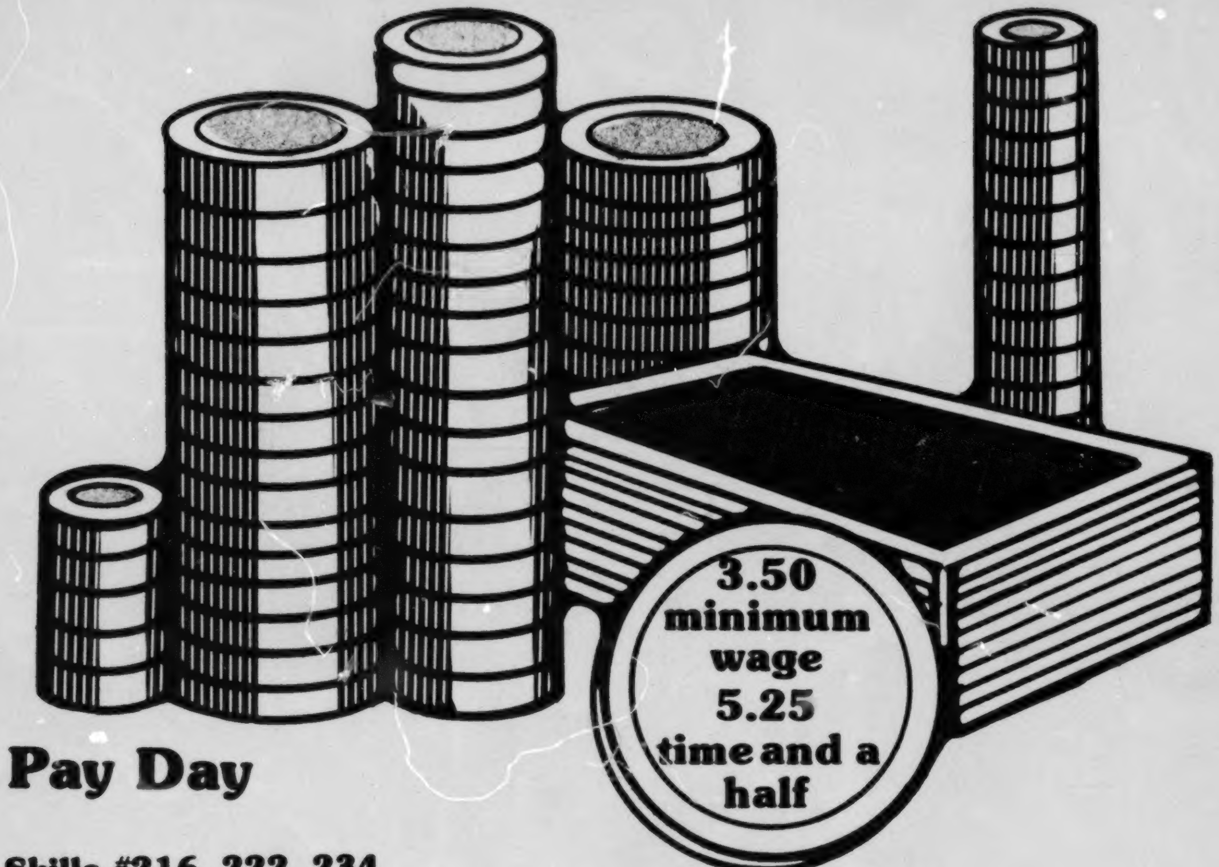
Skill #231
Addition as Patterns

Objective:
The student will identify the operation needed to generate the pattern.

Directions:
Have the student identify the number patterns on the ropes and determine whether they involve operations of addition or subtraction.

Follow-up Activities:
1. Give the student an incomplete Pascal's triangle and have him identify the missing numbers.
2. Have the student construct a Pascal's triangle, using numbered cardboard squares.



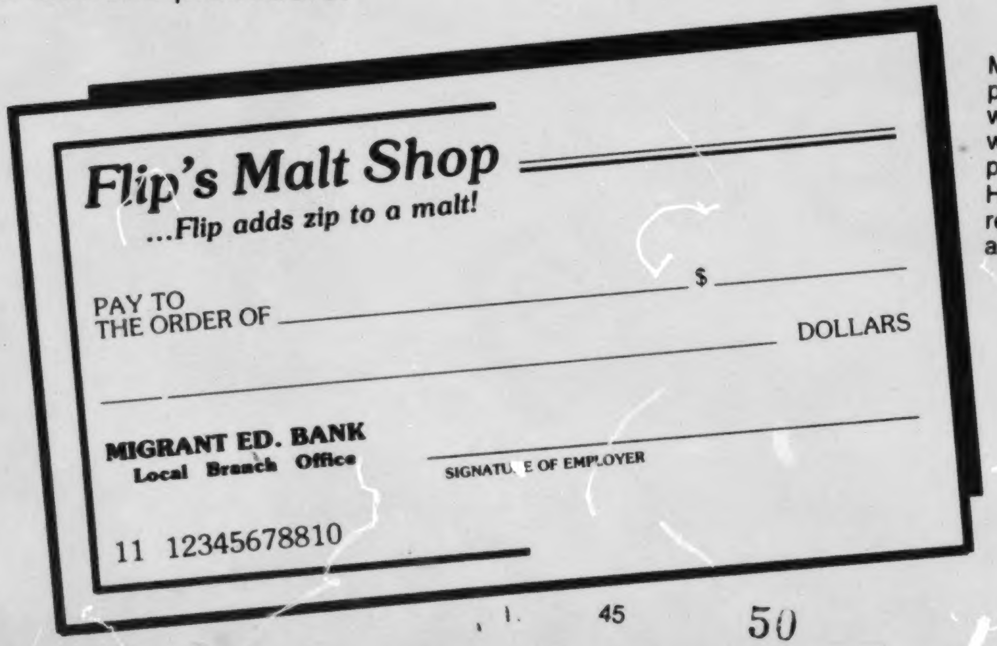


Pay Day

Skills #216, 222, 234
Addition, Multiplication, Mixed Operations, Word Problems

Objective:
The student will identify an arithmetic procedure for solving the problem.

Directions:
The student will read the word problems and find the solutions by using an arithmetic procedure.



Flip's Malt Shop
...Flip adds zip to a malt!

PAY TO
THE ORDER OF ______________________ $ ________

______________________________________ DOLLARS

MIGRANT ED. BANK
Local Branch Office

SIGNATURE OF EMPLOYER

11 12345678810

Majorie got her paycheck today. She worked 24 hours this week and is getting paid minimum wage. Her paycheck is incorrect. What is the amount of error?

José's Taco Hut

...there's no Mexican dish Jose' can't cook!

PAY TO
THE ORDER OF ______________________ $ ________

______________________________ DOLLARS

MIGRANT ED. BANK
Local Branch Office

____
SIGNATURE OF EMPLOYER

00 1234876543

Jock is working at José's Taco Hut to earn some money for Christmas. He worked 40 hours regular time and 12 hours overtime. He is getting paid minimum wage. Fill in the correct amount of his paycheck.

Lot-a-Burgers

...where you get a lot-a burger for a little money!

$ ________

PAY TO
THE ORDER OF ______________________

______________________ DOLLARS

MIGRANT ED. BANK
Local Branch Office

____
SIGNATURE OF EMPLOYER

11 123456

Greco's Greek Treats

...Greco puts the Greek in his treats!

PAY TO
THE ORDER OF ______________________ $ ________

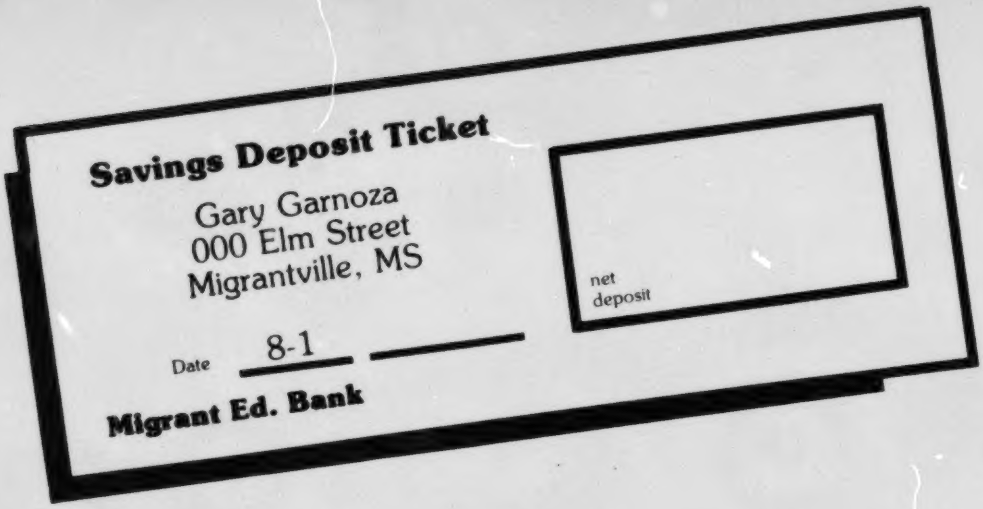
______________________________ DOLLARS

MIGRANT ED. BANK
Local Branch Office

____
SIGNATURE OF EMPLOYER

00 1234876543

Mary Kay is working two jobs during the Christmas holidays. She is working 40 hours at Greco's Greek Treats at 20 cents above minimum wage and 18 hours at Lot-a-Burger making 75 cents above minimum wage. Fill in the correct amount of her paychecks. What will her total income be?



Savings Deposit Ticket

Gary Garnoza
000 Elm Street
Migrantville, MS

Date 8-1

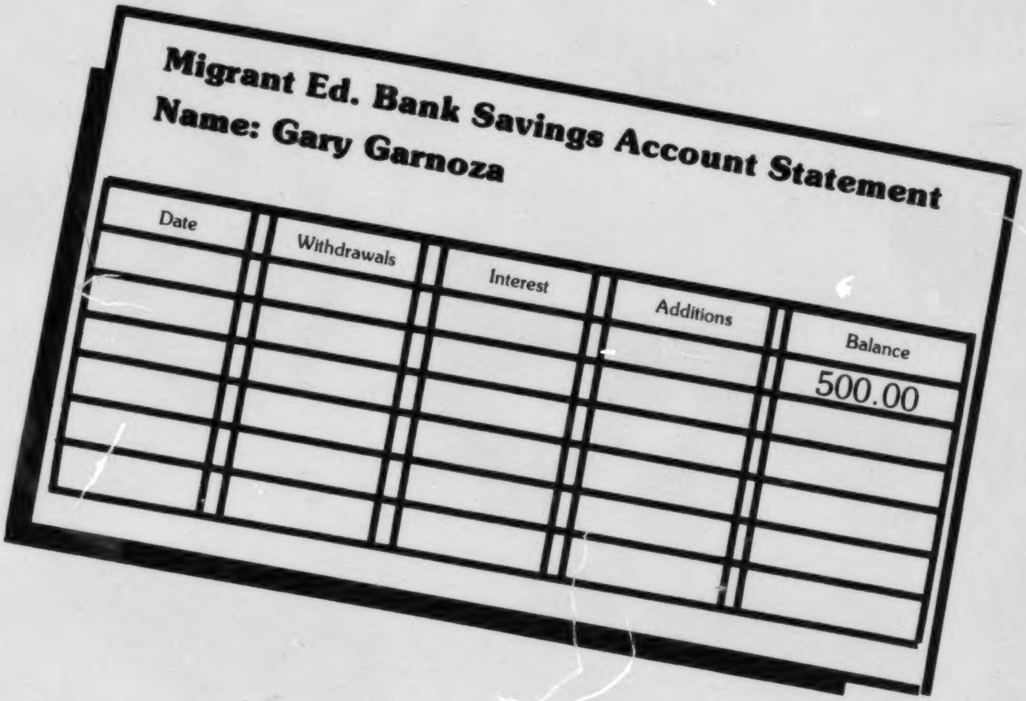
net deposit

Migrant Ed. Bank

Gary received a $90.00 payroll check from one job and a $120.00 payroll check from another job. After spending $20.00 for gas and $25.00 for football tickets he put half the amount into the checking account and the other half into a savings account. How much did Gary put into his savings account?

(Add 90 and 120; subtract 20 and 25. Divide result by 2).

Gary put his money into a savings account earning 12% *annual* interest. He already had $500.00 in his account. Gary receives a balance statement at the end of 12 months showing the amount he has in his savings account. Have the student fill the correct amounts in on the statement.



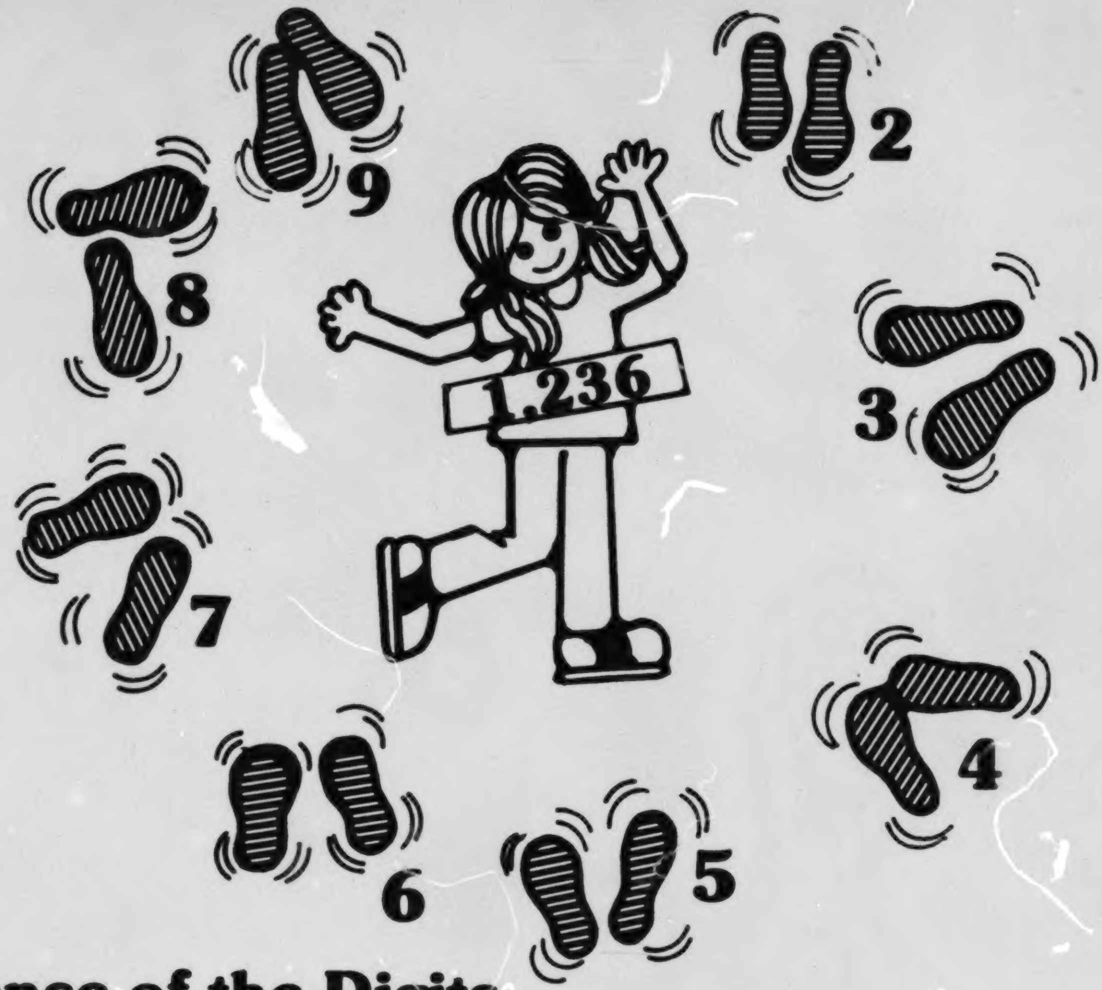
Migrant Ed. Bank Savings Account Statement

Name: Gary Garnoza

Date	Withdrawals	Interest	Additions	Balance
				500.00

Some Suggestions:

- Obtain counter checks, deposit slips and statement forms from a local bank for classroom use.
- This activity could easily be adapted to a learning center situation in the classroom.



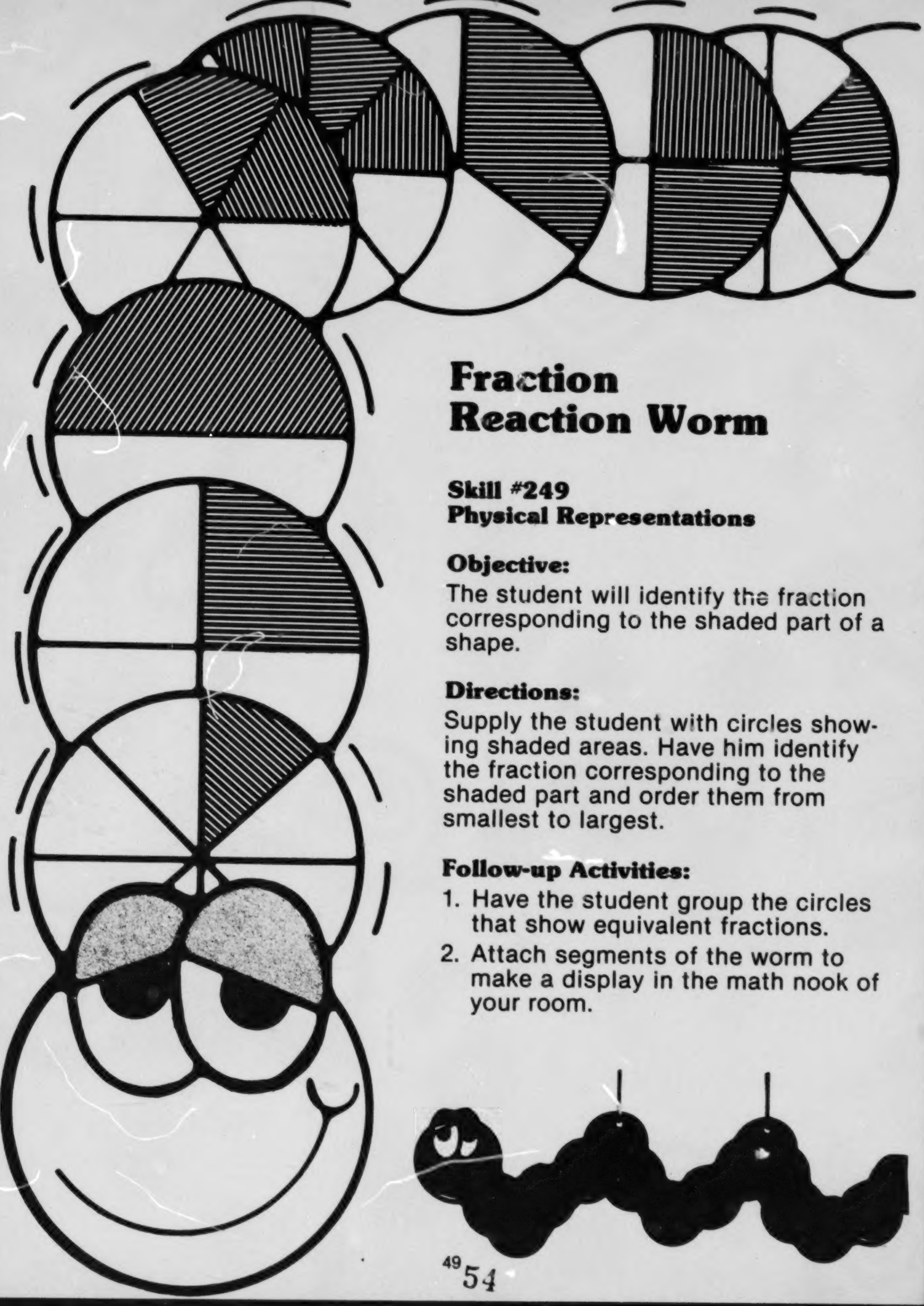
Dance of the Digits

Skill #237
Unfinished Numbers

Objective:
The student will identify numbers which can be divided evenly into a given number.

Directions:
Have the students form a circle, assigning a one-digit number to each. The student chosen to be "it" stands in the middle with a four-digit number. Each student is invited into the center but may enter only if his digit is an "even" divisor. He scores a point if he answers correctly. After all the divisors are in the center, a new four-digit number is assigned.

Follow-up Activities:
1. Play the activity in the same manner as above, leaving the "one's" place blank in the given number. As each student is asked into the center, he may come only if his digit makes the number divisible by two.
2. Have the students form a line as in a spelling bee. A number, such as five, is given and each student must give a multiple of it to remain in the "number bee."



Fraction Reaction Worm

Skill #249
Physical Representations

Objective:

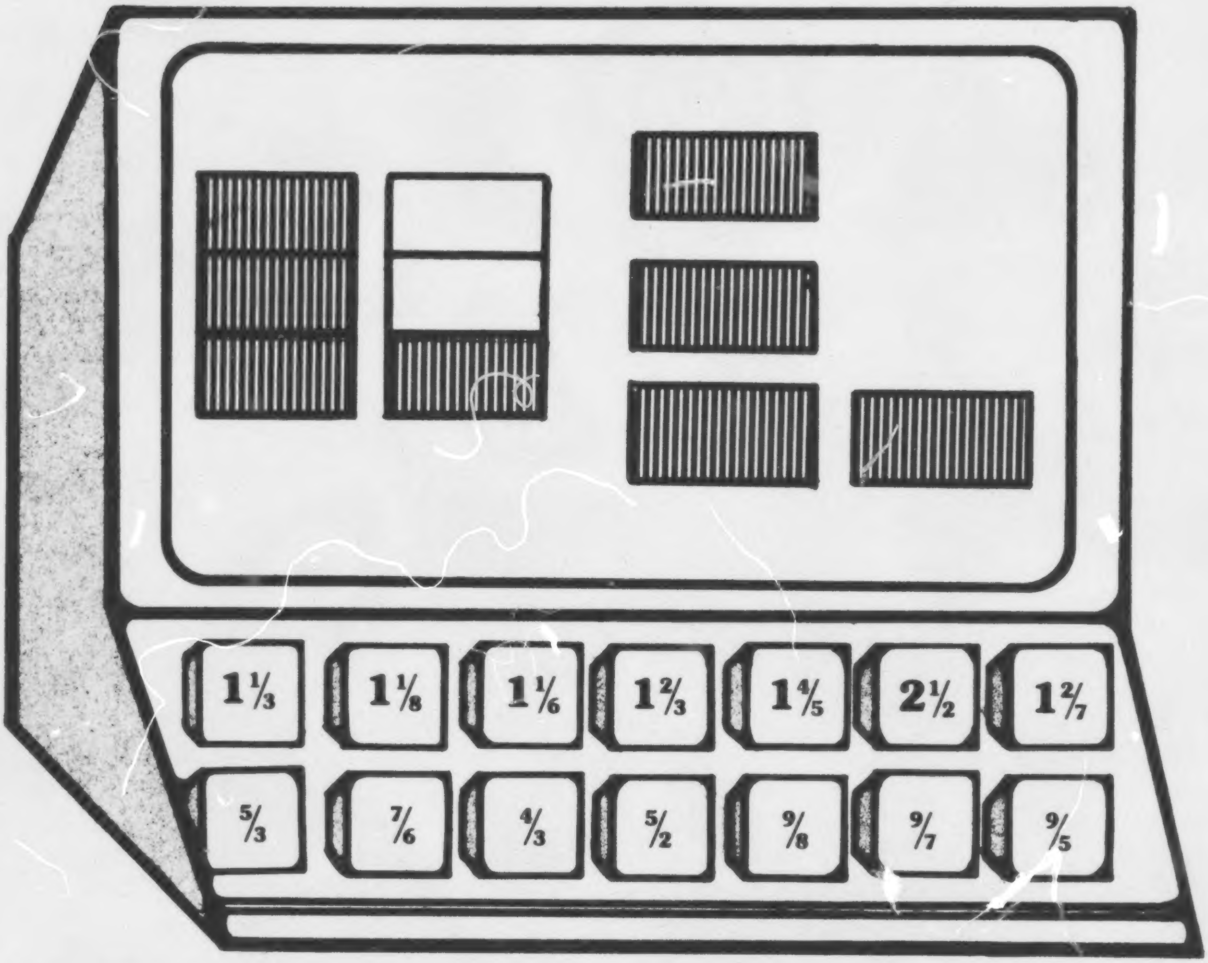
The student will identify the fraction corresponding to the shaded part of a shape.

Directions:

Supply the student with circles showing shaded areas. Have him identify the fraction corresponding to the shaded part and order them from smallest to largest.

Follow-up Activities:

1. Have the student group the circles that show equivalent fractions.
2. Attach segments of the worm to make a display in the math nook of your room.



Fact Man

Skill #255
Physical Representations of Mixed Number Fractions

Objective:

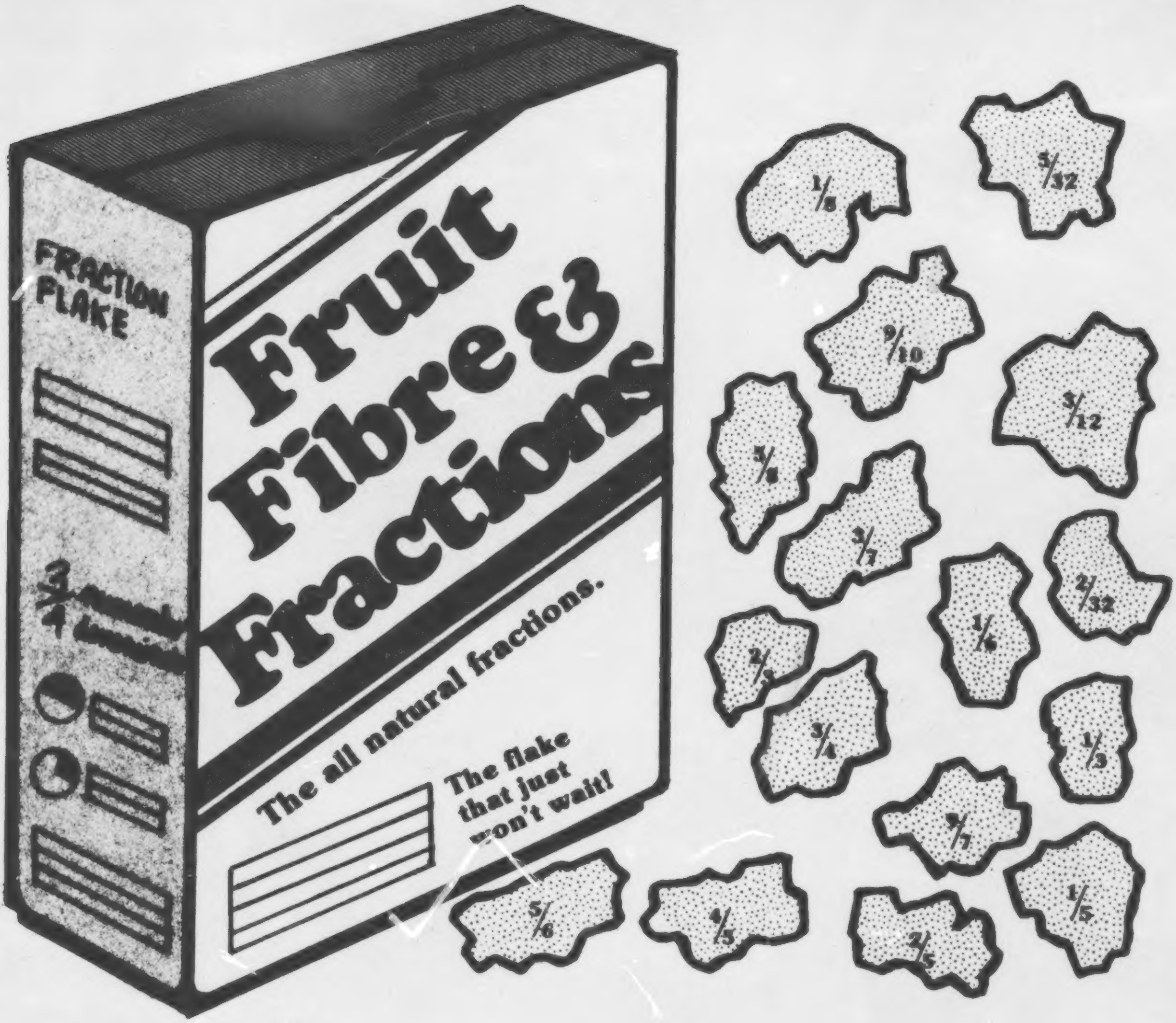
The student will identify a figure representing the corresponding improper fraction.

Directions:

Place a picture on the screen depicting a physical representation of a mixed number and an improper fraction. Have the student locate the numeral forms on the keyboard.

Follow-up Activities:

1. Provide the student with cardboard circles to illustrate each mixed numeral on the keyboard.
2. Provide the students with Graham crackers and have him illustrate improper fractions with a denominator of two or four.


FRACTION FLAKE
3/4
Fruit Fibre & Fractions
The all natural fractions.
The flake that just won't wait!
1/8
5/32
9/10
3/12
5/8
3/7
1/6
2/32
2/3
3/4
1/3
6/7
1/5
5/6
4/5
2/5

Fraction Flakes

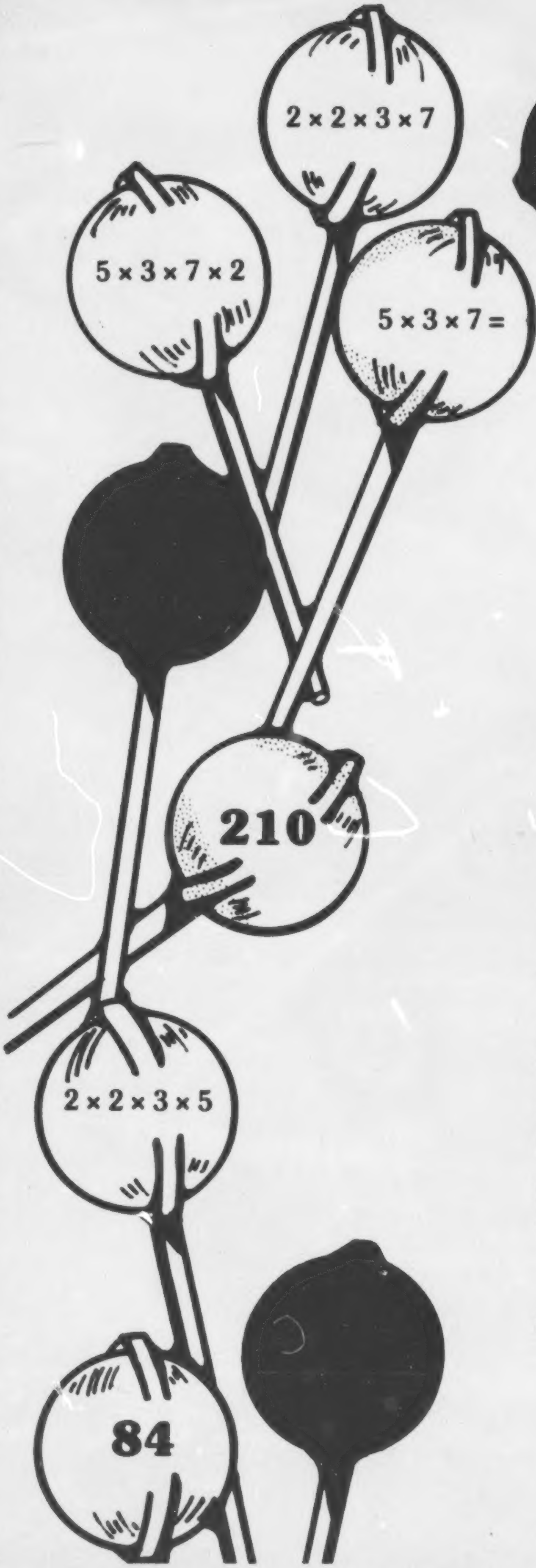
Skill #258
Ordering Fractions

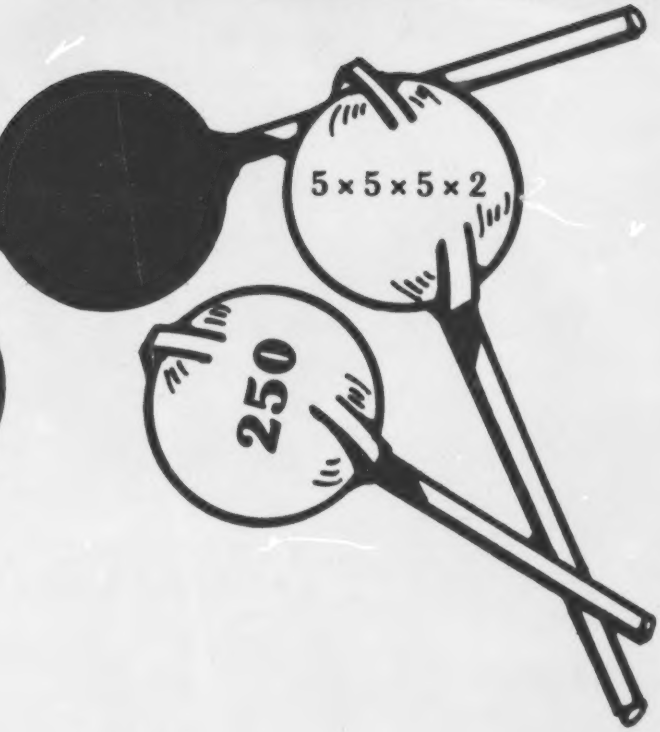
Objective:
The student will place the fractions in order from smallest to largest.

Directions:
Have the student empty the "fraction flakes" from the cereal box and place them in order from smallest to largest.

Follow-up Activities:

1. Have the student sort the flakes into two bowls: one labeled "one half or less" and the other labeled "more than one half."
2. Use a cereal-based recipe to have a classroom cooking experience. Have the students compare fractional quantities of the ingredients.





Prime Pops

Skill #261
Prime Factoring

Objective:

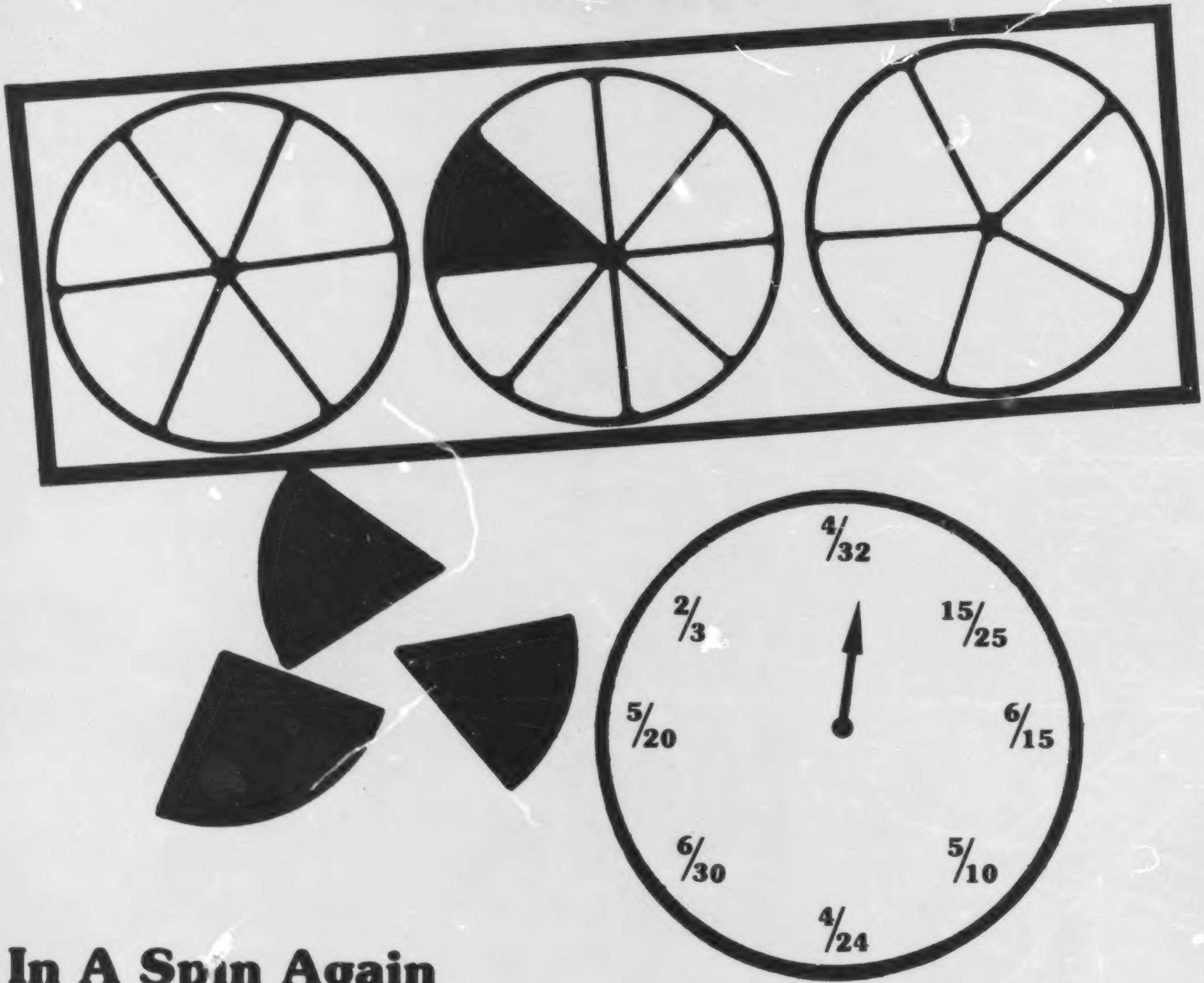
The student will identify the prime factorization of a number.

Directions:

The student matches the composite number pop to the prime factorization pop.

Follow-up Activities:

1. Have the student illustrate each composite number and its prime factors in building factor trees.
2. Have the students use the factor trees from follow-up one to design a bulletin board, including the definition of *prime factoring*.



In A Spin Again

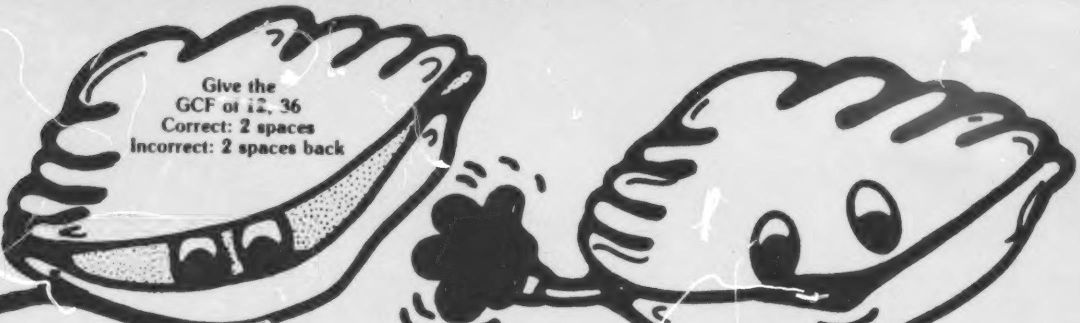
Skill #264
Simplifying Fractions

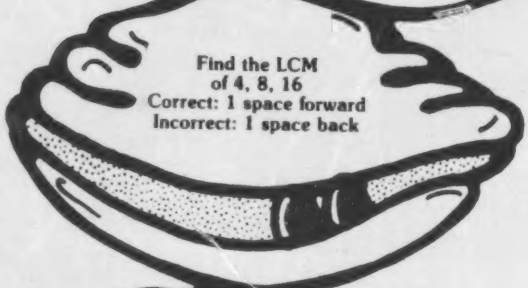
Objective:
The student will identify equivalent "reduced" and "non-reduced" fractions.

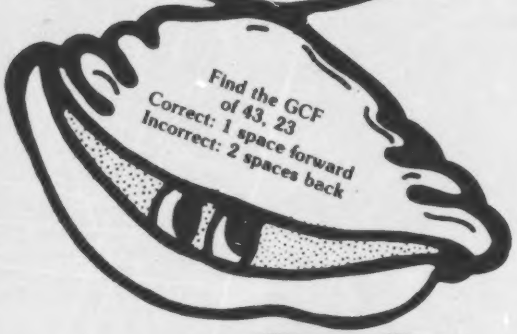
Directions:
Each student is given a gameboard with three circles and a set of fractional parts. The student spins the spinner and places an equivalent fractional part on the gameboard.

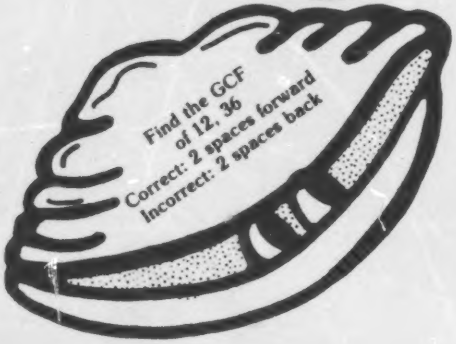
Follow-up Activities:

1. Have the students play a version of bingo, covering the gameboard with equivalent fractional parts as the fractions are called.
2. Have the students write four or more fractions equivalent to the ones on the spinnerboard.


Give the
GCF of 12, 36
Correct: 2 spaces
Incorrect: 2 spaces back


Find the LCM
of 4, 8, 16
Correct: 1 space forward
Incorrect: 1 space back


Find the GCF
of 43, 23
Correct: 1 space forward
Incorrect: 2 spaces back


Find the GCF
of 12, 36
Correct: 2 spaces forward
Incorrect: 2 spaces back

Clam Bake

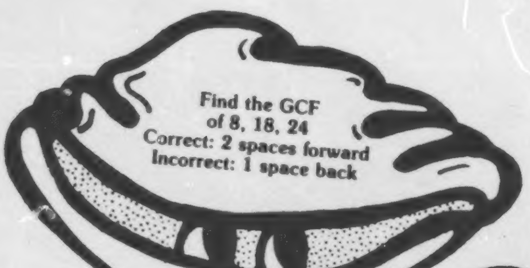
Skills #267, 270
Least Common Multiple
Greatest Common Factor

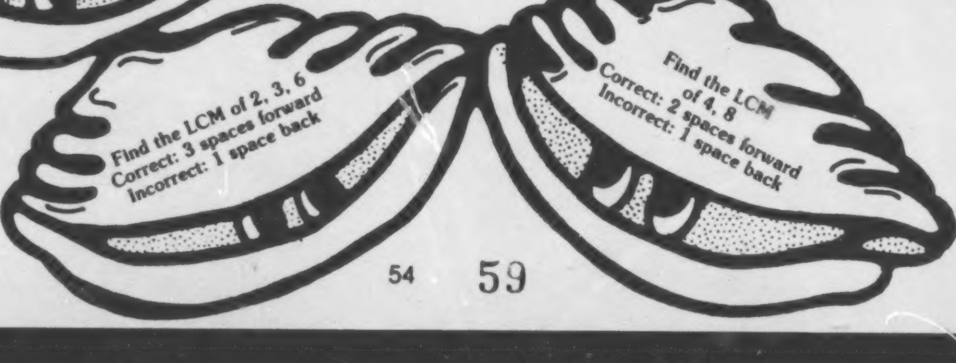
Objective:

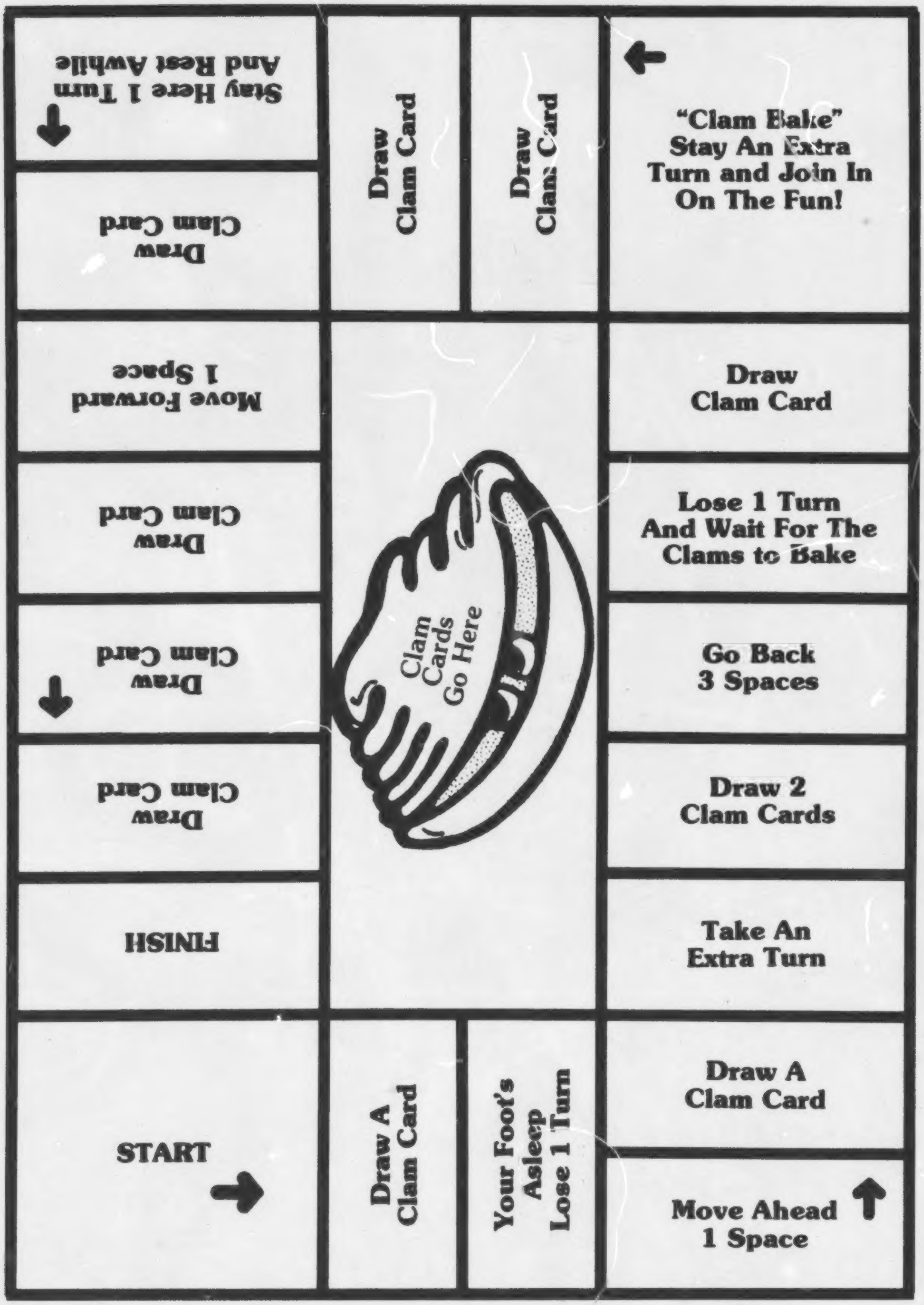
The student will identify the least common multiple and the greatest common factor.

Directions:

"Clam Bake" is played with 1 die and the "clam" cards, such as the ones on this page. In alternating turns, each student rolls the die. He then moves his marker the number of spaces corresponding to the number on the die. He must follow the instructions on the activity board found on the next page. The first one to reach the finish line is the winner.


Find the GCF
of 8, 18, 24
Correct: 2 spaces forward
Incorrect: 1 space back


Find the LCM of 2, 3, 6
Correct: 3 spaces forward
Incorrect: 1 space back
Find the LCM
of 4, 8
Correct: 2 spaces forward
Incorrect: 1 space back


START
Draw A Clam Card
Your Foot's Asleep Lose 1 Turn
Move Ahead 1 Space
Draw A Clam Card
Take An Extra Turn
Draw 2 Clam Cards
Go Back 3 Spaces
Lose 1 Turn And Wait For The Clams to Bake
Draw Clam Card
"Clam Bake" Stay An Extra Turn and Join In On The Fun!
Draw Clam Card
Draw Clam Card
Stay Here 1 Turn And Rest Awhile
Draw Clam Card
Move Forward 1 Space
Draw Clam Card
Draw Clam Card
Draw Clam Card
FINISH
Clam Cards Go Here

A Nutty Activity

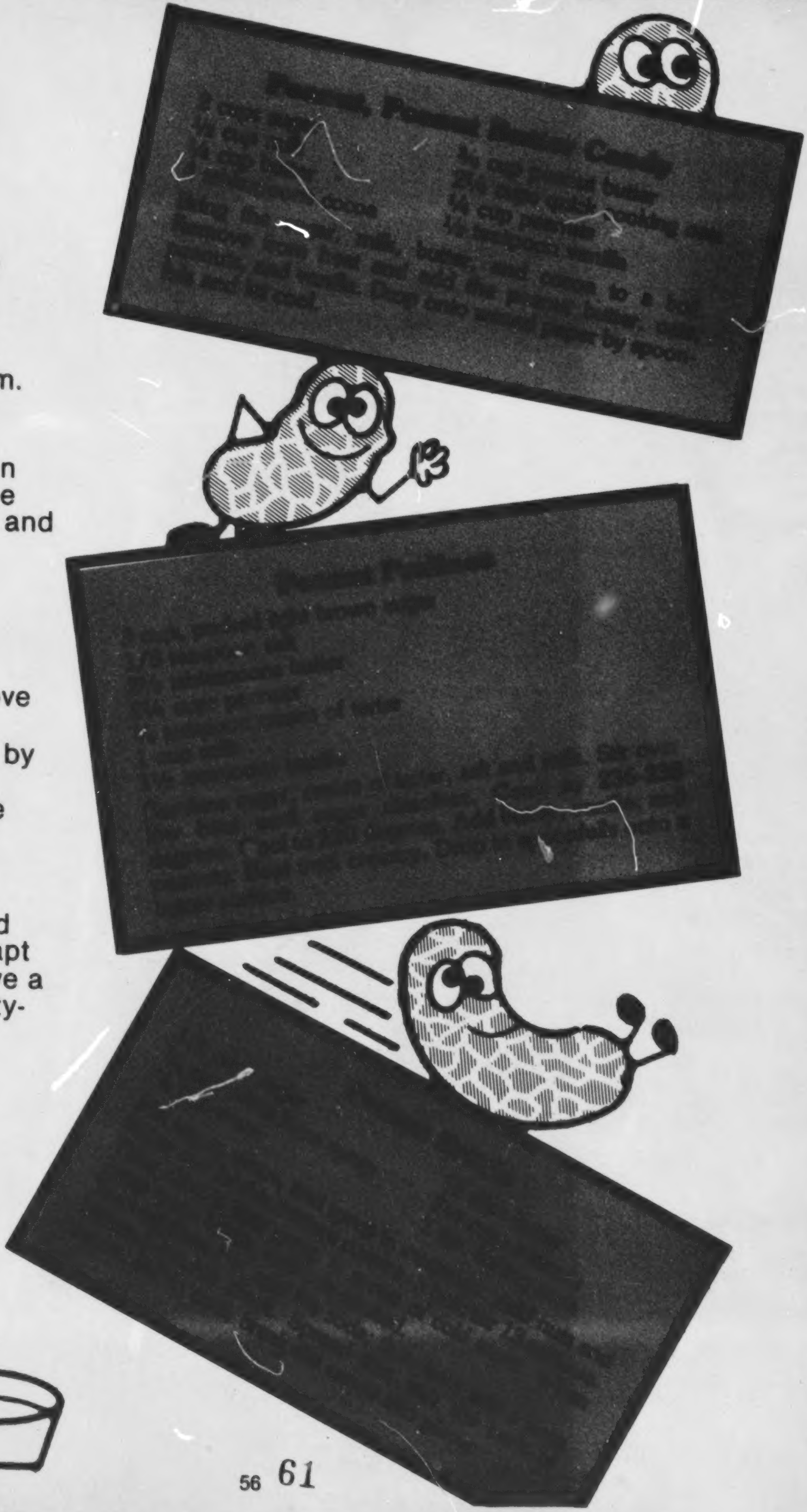
Skill #279 Unlike Denominations

Objective:
The student will compute the sum.

Directions:
Using an addition process, have the students double and triple the given recipes.

Follow-up Activities:

1. Adapt the above activity to multiplication by having the students halve the recipes.
2. Provide the students with cookbooks and have them adapt recipes to serve a group of twenty-five.



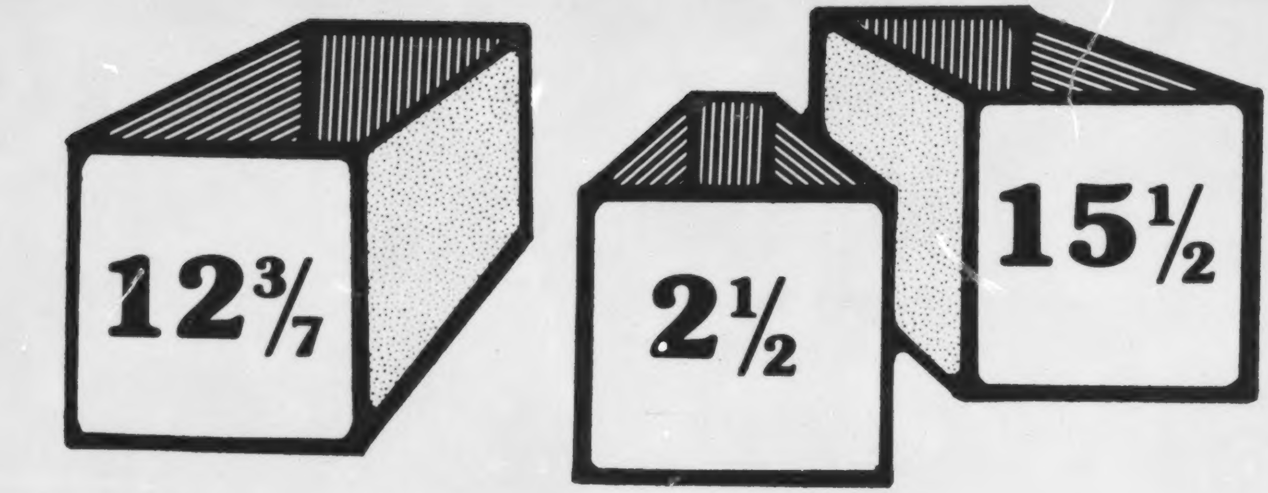
Peanut, Peanut Butter Candy

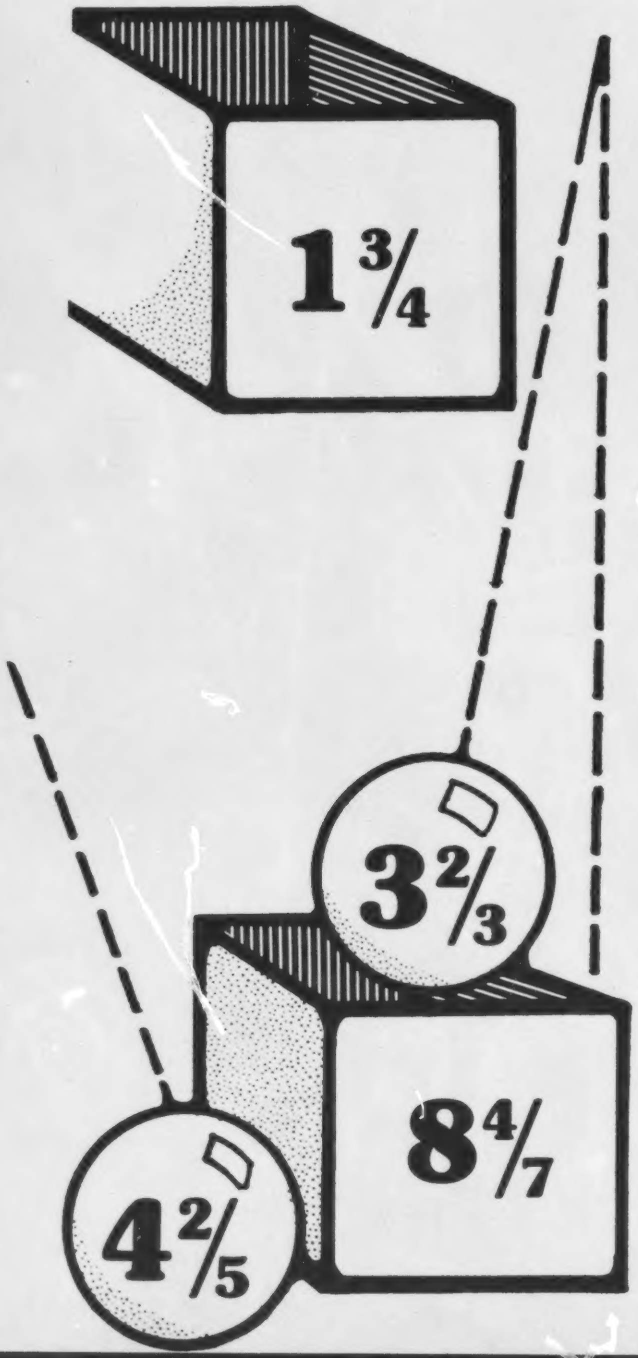
2 cups sugar
½ cup milk
¼ cup butter
4 tablespoons cocoa

¾ cup peanut butter
2½ cups quick cooking oats
¼ cup peanuts
½ teaspoon vanilla

Bring the sugar, milk, butter, and cocoa to a boil. Remove from heat and add the peanut butter, oats, peanuts, and vanilla. Drop onto waxed paper by spoonfuls and let cool.

[illegible]





The Net Sum

Skill #282
Unlike Denominators
LCD is Neither Denominator

Objective:
The student will compute the sum.

Directions:
Place boxes on the floor and mark a line several feet away from the box. Each student stands behind the line and is allowed three attempts to toss the ball into a box. If he succeeds, he computes his score by adding the mixed number on the ball to the number on the box. The player with the highest "net" sum wins.

Follow-up Activities:
1. Play this activity in the same manner, using multiplication to determine the score.
2. Allow the students to play Ping-pong, changing the point system to fractional numerals.

Your Fortune In Fractions

Skill #288
Like Denominators

Objective:

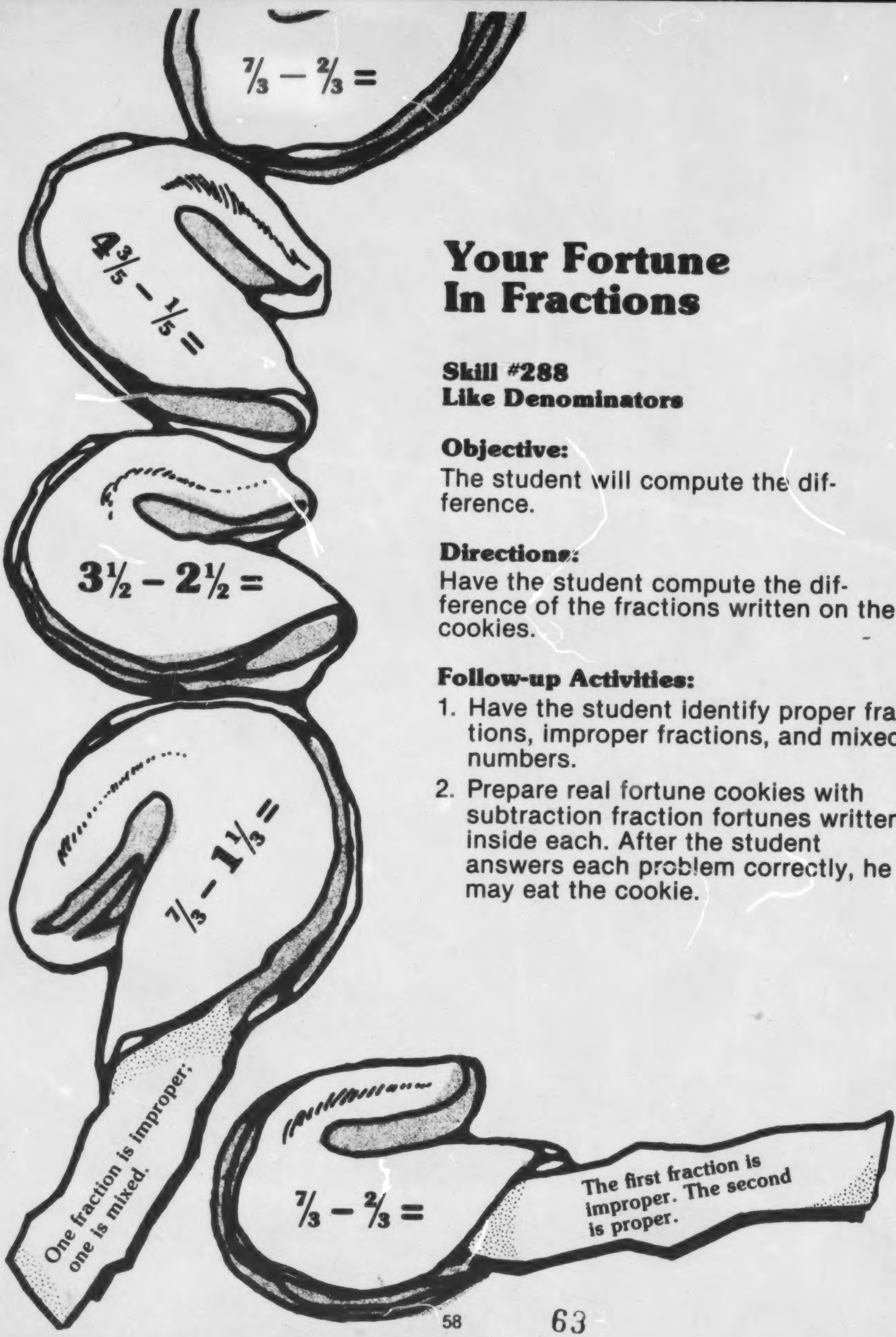
The student will compute the difference.

Directions:

Have the student compute the difference of the fractions written on the cookies.

Follow-up Activities:

1. Have the student identify proper fractions, improper fractions, and mixed numbers.
2. Prepare real fortune cookies with subtraction fraction fortunes written inside each. After the student answers each problem correctly, he may eat the cookie.


$\frac{7}{3}-\frac{2}{3}=$
$4\frac{3}{5}-\frac{1}{5}=$
$3\frac{1}{2}-2\frac{1}{2}=$
$\frac{7}{3}-1\frac{1}{3}=$
One fraction is improper; one is mixed.
$\frac{7}{3}-\frac{2}{3}=$
The first fraction is improper. The second is proper.

$\frac{13}{9} - \frac{1}{5} =$
Correct:
2 spaces forward
Incorrect:
1 space back

$256\frac{1}{10} - 139\frac{2}{3} =$
Correct:
4 spaces forward
Incorrect:
1 space back

$14\frac{2}{3} - \frac{4}{5} =$
Correct:
1 space forward
Incorrect:
1 space back

$\frac{11}{9} - \frac{2}{3} =$
Correct:
2 spaces forward
Incorrect:
1 space back

Fracto-Subtracto

Skills #291, 294
Unlike Denominators

Objective:
The student will compute the difference.

Directions:
In alternating turns, each student draws a "fracto" card, as shown on this page, and follows the directions. Using the "Fracto Subtracto" gameboard, as shown on the following page, each student chooses the best path to follow. A student who lands on an asterisk may take an extra turn. The first one to reach "finish" is the winner.

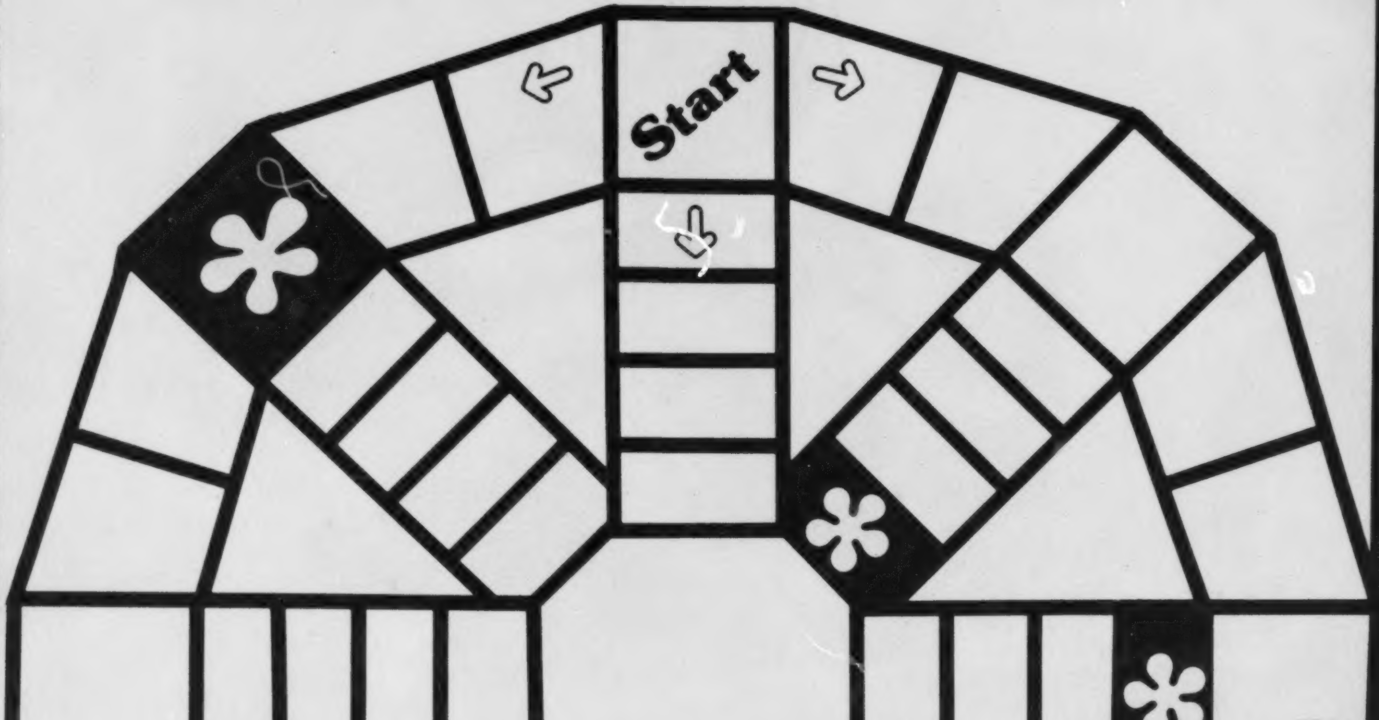
$3\frac{1}{2} - \frac{1}{8} =$
Correct:
1 space forward
Incorrect:
1 space back

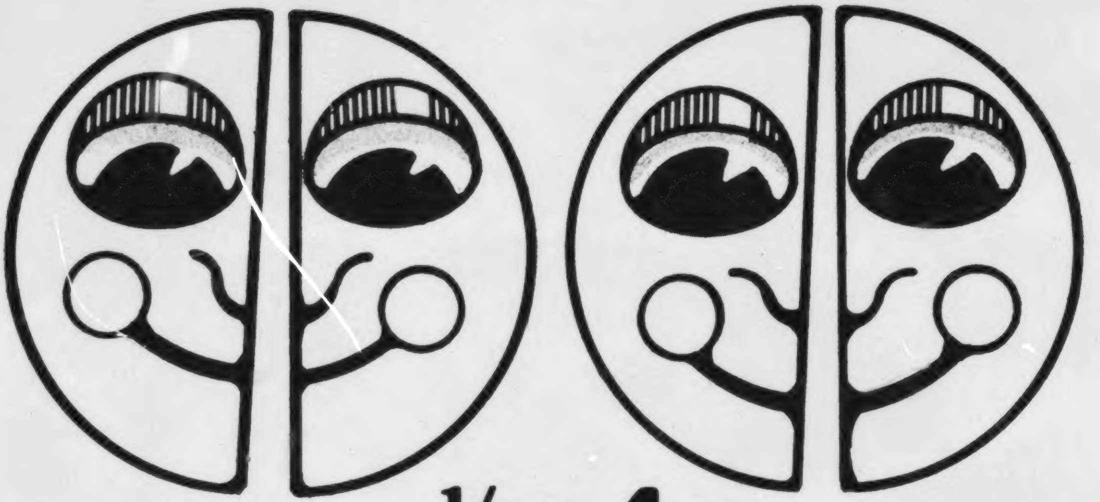
$1\frac{2}{5} - \frac{13}{10} =$
Correct:
1 space forward
Incorrect:
2 spaces back

$20\frac{1}{21} - 7\frac{1}{7} =$
Correct:
1 space forward
Incorrect:
1 space back

$17\frac{3}{5}{}'12\frac{1}{10} =$
Correct:
2 spaces forward
Incorrect:
1 space back

$4\frac{1}{3} - \frac{5}{4} =$
Correct:
2 spaces forward
Incorrect:
2 spaces back


Start
Finish



$\frac{1}{2} \times 4 =$

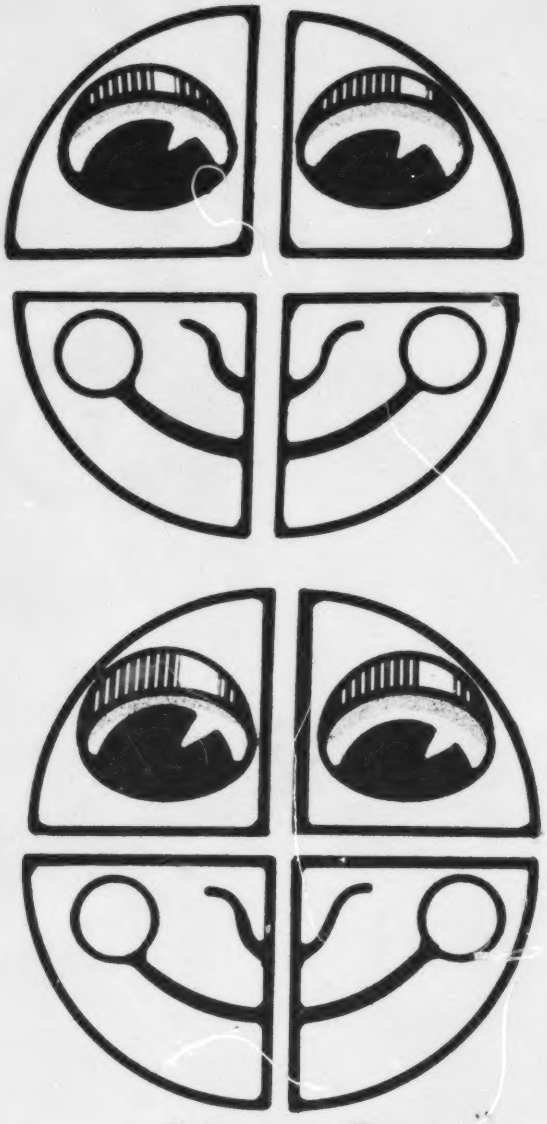
Moon Over Multiplication

Skill #300
Area Representations of Multiplications of Fractions

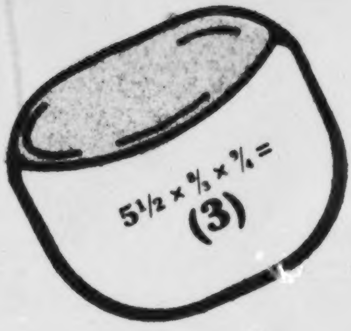
Objective:
The student will identify an area model corresponding to a multiplication sentence.

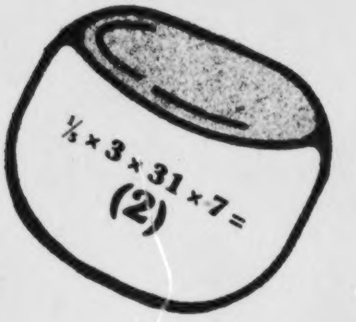
Directions:
Using the "moon" parts, have the student make a model that represents a given multiplication sentence, as shown in the examples.

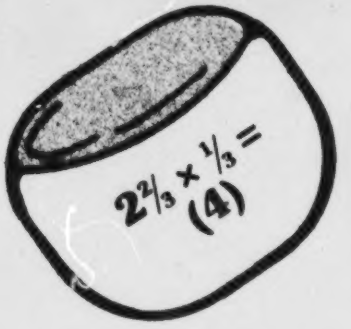
Follow-up Activities:
1. Give the students assorted "moon" parts and have them arrange the parts to complete multiplication sentences.
2. For a fun follow-up, give the students "moon" pies and have them cut them to identify area models, corresponding to given number sentences.

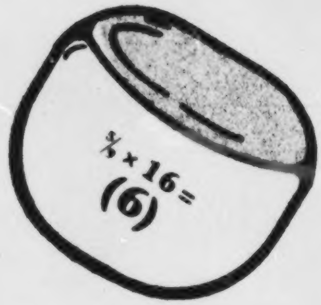


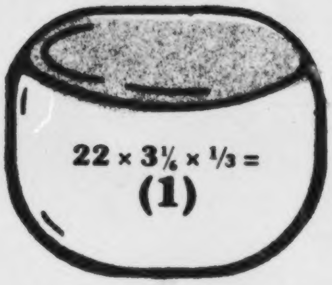
$\frac{1}{4} \times 8 =$

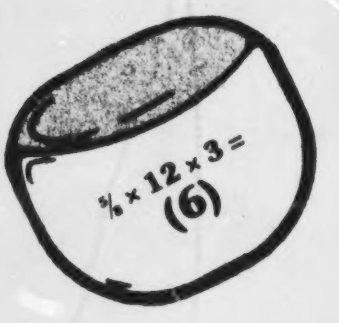


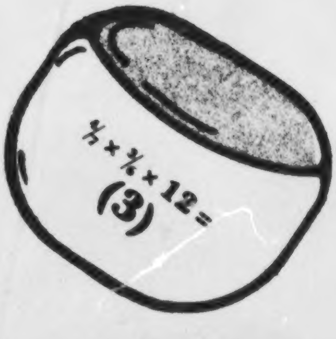












Multiplying Marshmallows

Skills #312 and 315
Whole Number x Fraction
Mixed Number x Fraction

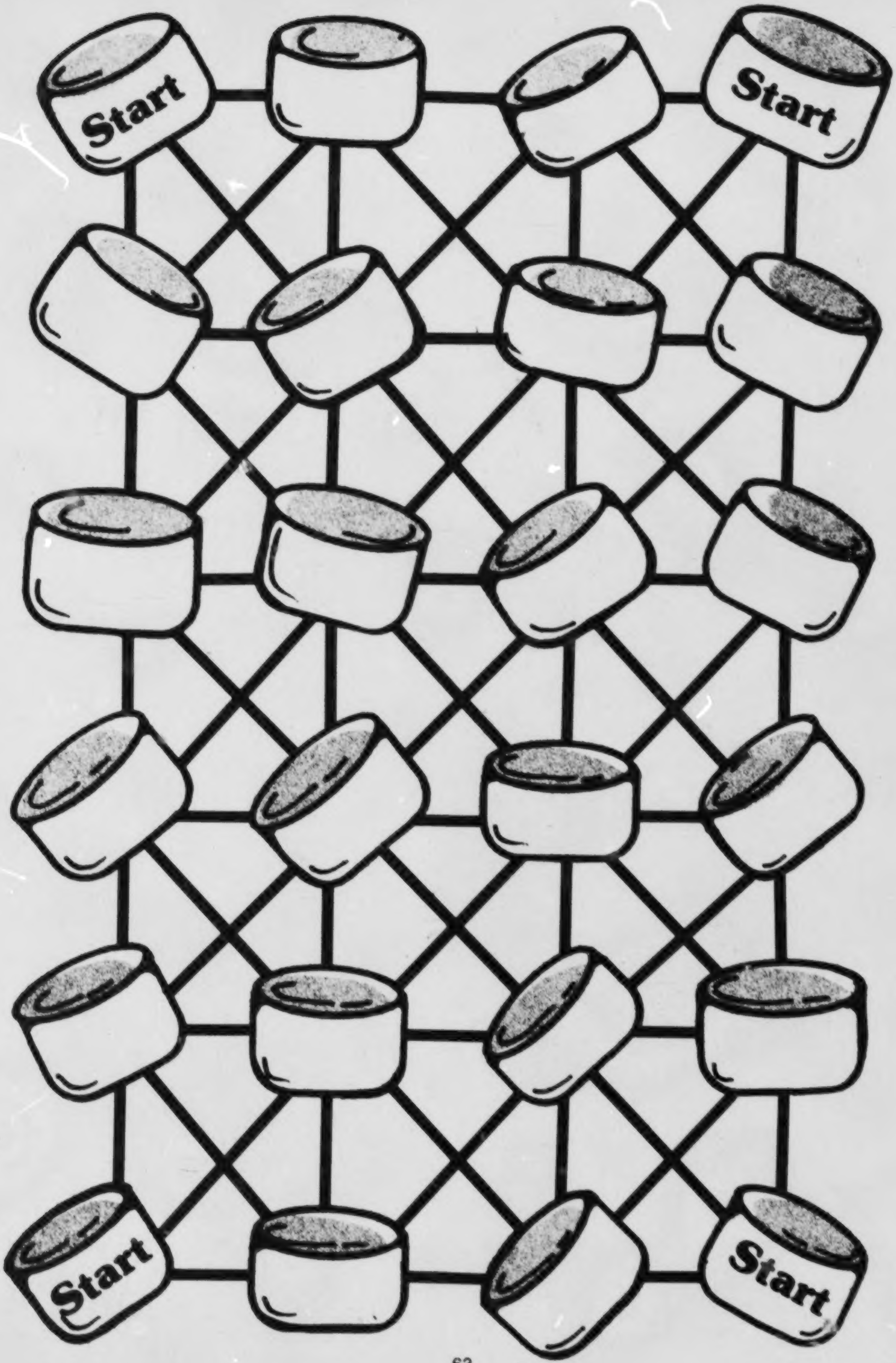
Objective:

The student will compute a product.

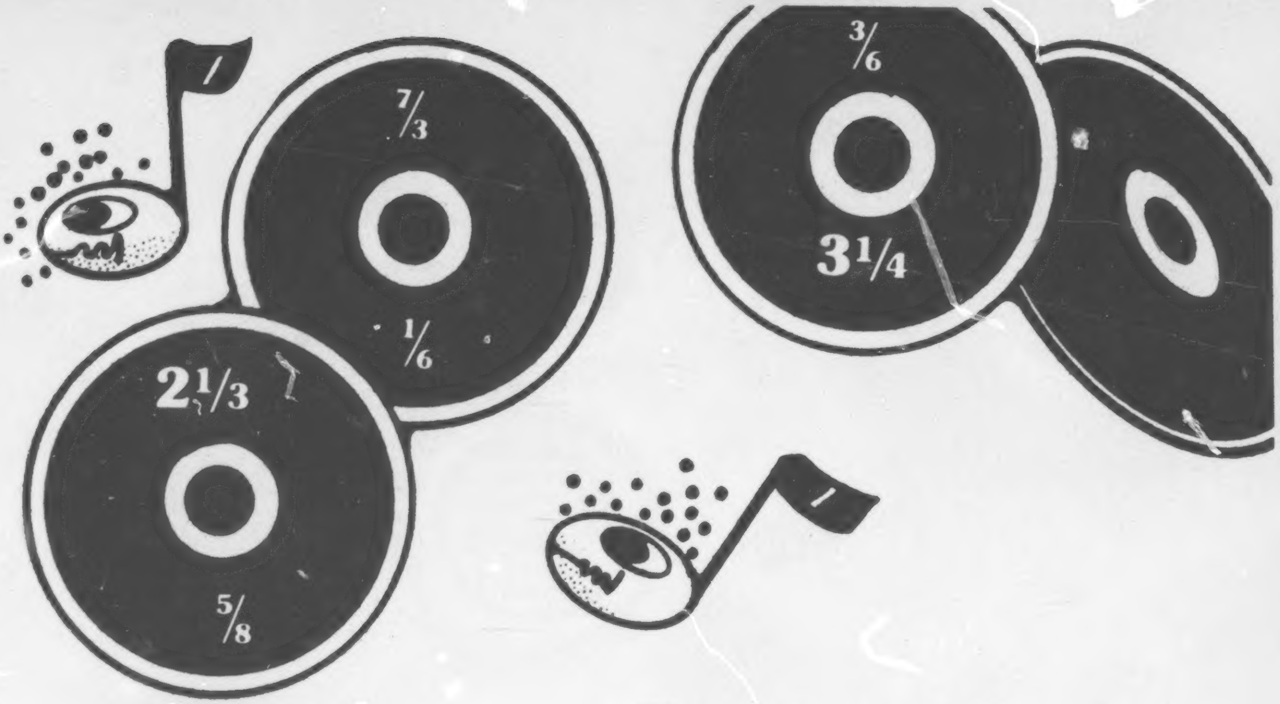
Directions:

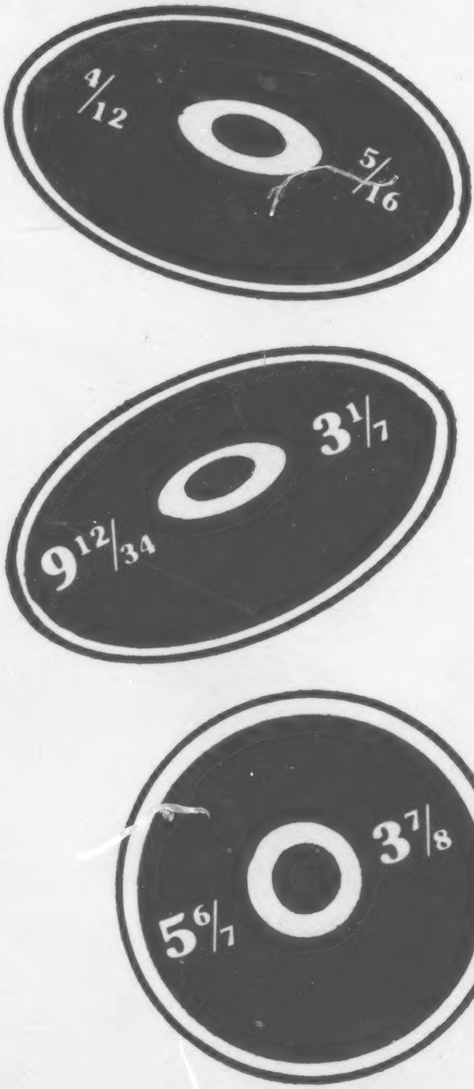
Using the "marshmallow" cards and the gameboard, shown on the following page, have the students play "Multiplying Marshmallows." Each student places his marker on one of the four corner marshmallows. In alternating turns, each student draws a marshmallow and answers the multiplication problem. If he answers correctly, he moves the number shown in the parenthesis. A player may not change direction during a move.

The object of the game is to land on a marshmallow occupied by another player and send that player back to his original place; each time a student does this, he collects a blank marshmallow. The first student to collect nine marshmallows wins.


Start
Start
Start
Start

3170 FRACTIONS





Reciprocal Rock

Skill #306
Reciprocals

Objective:

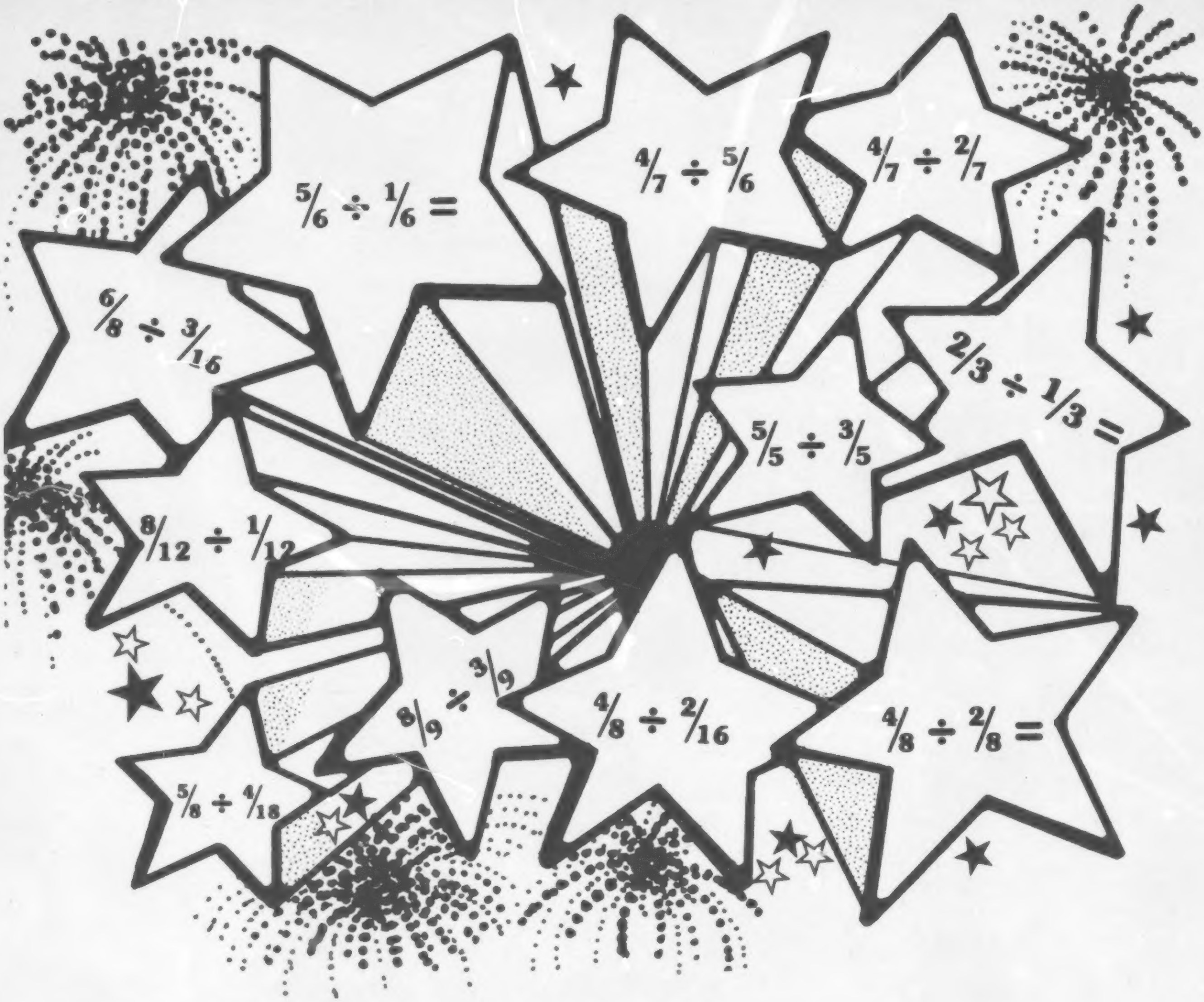
The student will identify reciprocal fractions.

Directions:

Have the student write the reciprocals of the fractions on the flip side of the platters.

Follow-up Activities:

1. Select one student to be the disc jockey. He announces a fraction to another student, who, then gives its reciprocal.
2. Have the students play the game of "Rhythm," using fractions as their reciprocals.



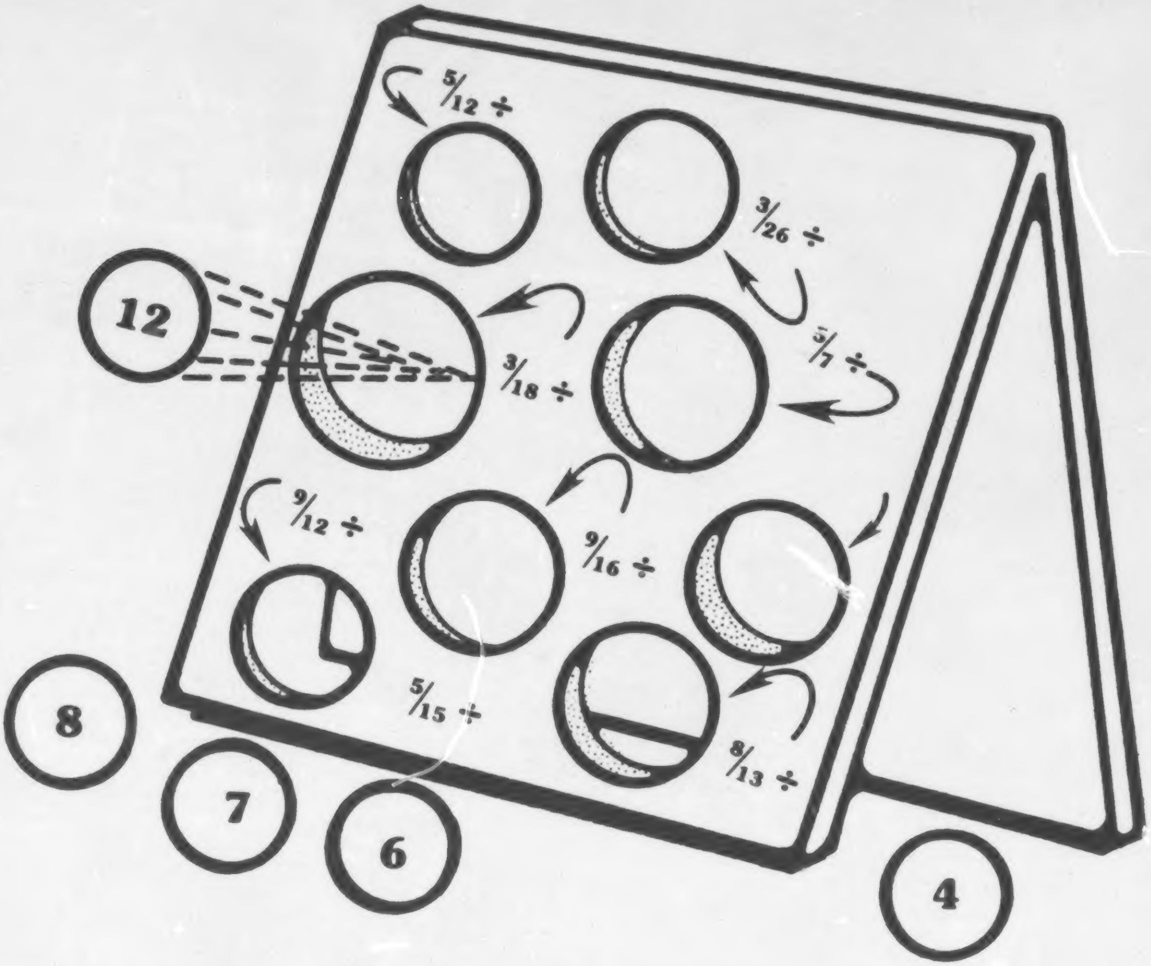
Razzle Dazzle Division

Skill #318
Proper ÷ Proper

Objective:
The student will compute the quotient.

Directions:
The students are given paper stars and an assortment of "Razzle Dazzle" boards, such as the one shown above. As the teacher calls out an answer, the students cover any corresponding problems with stars. The first student to cover his board wins by calling out "Razzle Dazzle."

Follow-up Activities:
1. Provide each student with a paper moon that has a quotient written on it. The student prepares five stars with corresponding problems.
2. Have each student construct a mobile, using his materials from follow-up one.



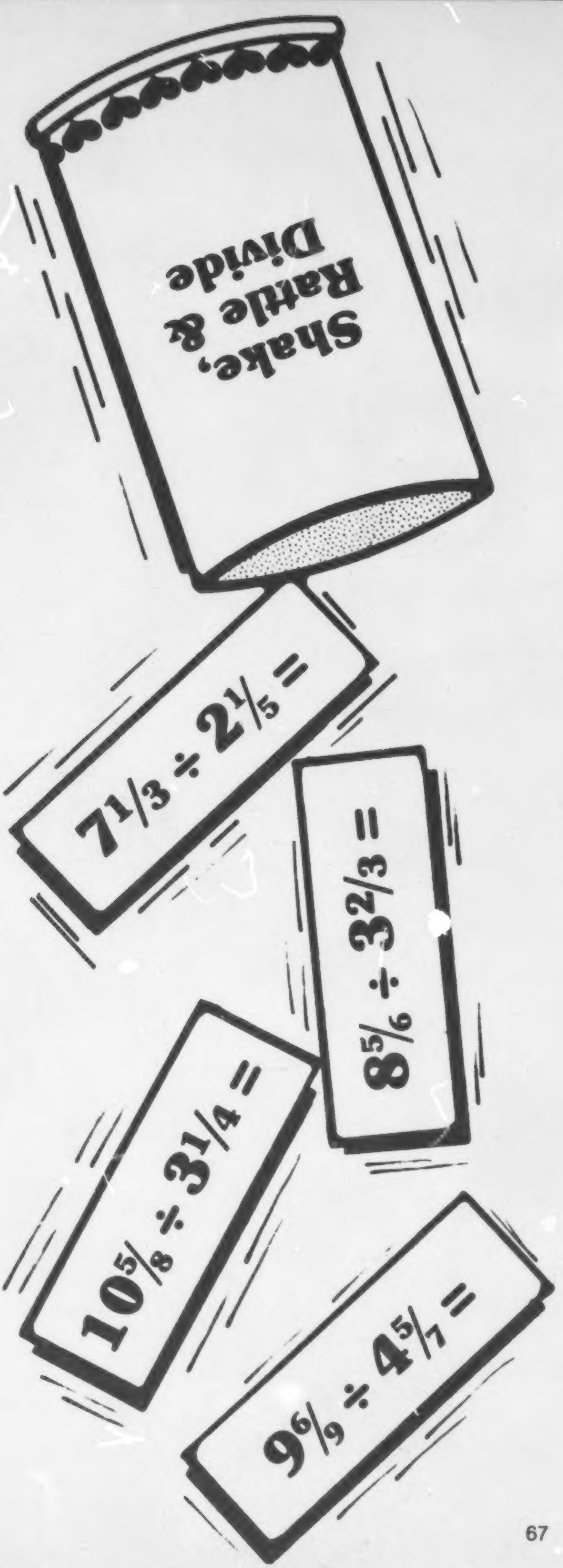
Divide and Conquer

Skill #324
Proper and Whole Numbers

Objective:
The student will compute a quotient.

Directions:
A Ping-pong toss is made out of heavy cardboard as shown. Each student selects a ball to toss through the game board. He computes the division problem, using the number on the ball as the divisor. A correct response from the student adds the value of the Ping-pong ball to the student's score, and an incorrect response subtracts it.

Follow-up Activities:
1. For added interest, have the students keep score by multiplying the quotient by the number of the Ping-pong ball.
2. Increase the difficulty of this activity by writing fractions on the Ping-pong balls; play in the manner of the original activity.


Shake, Rattle & Divide
$7\frac{1}{3} \div 2\frac{1}{5} =$
$8\frac{5}{6} \div 3\frac{2}{3} =$
$10\frac{5}{8} \div 3\frac{1}{4} =$
$9\frac{6}{9} \div 4\frac{5}{7} =$

Shake, Rattle And Divide

Skill #327
Mixed and Mixed

Objective:

The student will compute a quotient.

Directions:

Place three or four students in a circle. In alternating turns, each student shakes out a card and computes an answer for the division problem. For each correct quotient, he scores seven points. The first student to reach twenty-one wins.

Follow-up Activities:

1. Present the students with a problem and have them compute the quotient on individual answer boards.
2. Have the students form two lines and provide each team with a can of division problems. In relay style, each team competes to answer its can of problems first.

Barney, the bowling pin, works $8\frac{1}{2}$ hours each day at the bowling alley. If Barney has $\frac{3}{4}$ of an hour for lunch each day, how many hours does he actually work?

Bowling For Answers

Skill #333
Subtraction Word Problems

Objective:

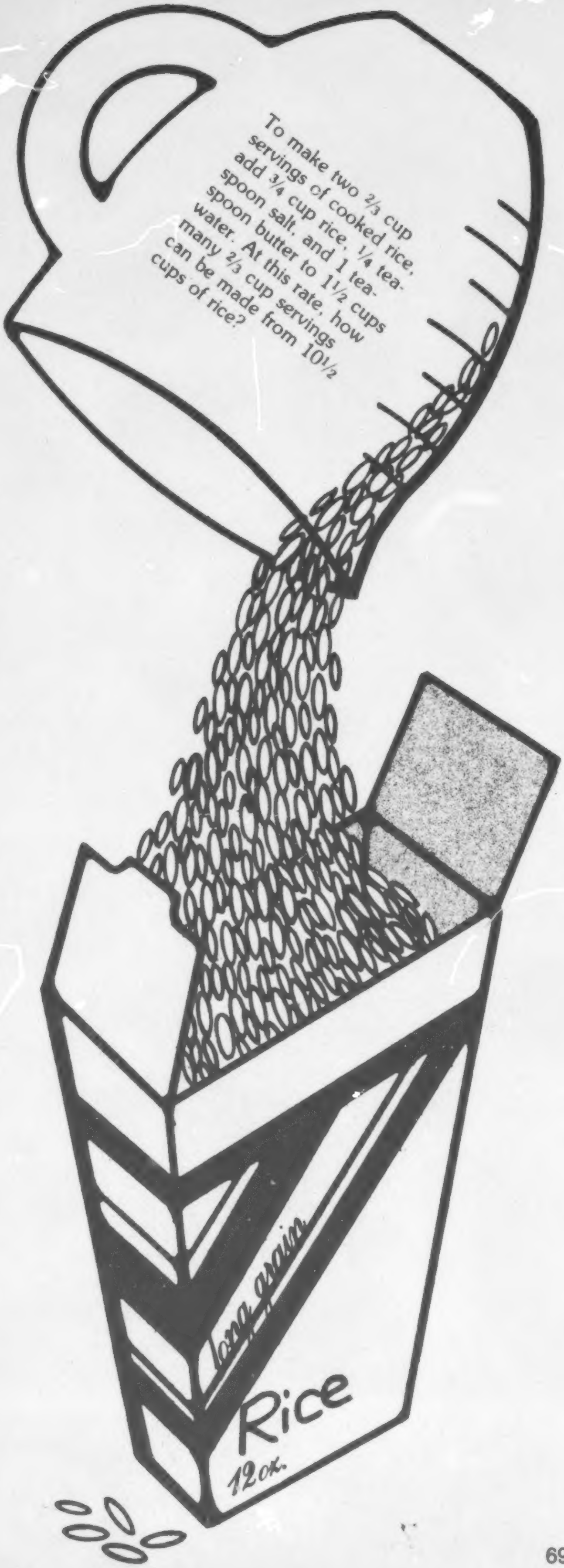
The student will identify a subtraction procedure for solving the problem.

Directions:

Have the student read the problem, write a subtraction procedure for solving the problem and answer it.

Follow-up Activities:

1. Find the rental per hour from your local bowling alley and have the student calculate the cost with a one-third off special.
2. One fourth of the students have their own bowling shoes; the others will have to rent theirs at fifty cents per pair. Have the students calculate the total cost for this bowling outing.



To make two $\frac{2}{3}$ cup servings of cooked rice, add $\frac{3}{4}$ cup rice, $\frac{1}{4}$ teaspoon salt, and 1 teaspoon butter to $1\frac{1}{2}$ cups water. At this rate, how many $\frac{2}{3}$ cup servings can be made from $10\frac{1}{2}$ cups of rice?

A-rice-metic

Skill #339
Division Word Problems

Objective:

The student will identify a division procedure for solving the problem.

Directions:

Have the student read the problem, write a division procedure for solving the problem and answer it.

Follow-up Activities:

1. Have the students determine the recipe needed to prepare one-half cup serving for each student in the classroom.
2. For a fun filled activity, have the students prepare and serve the recipe from follow-up one.

Plug Into Fractions

Skill #342
Mixed Operations
Word Problems

Objective:

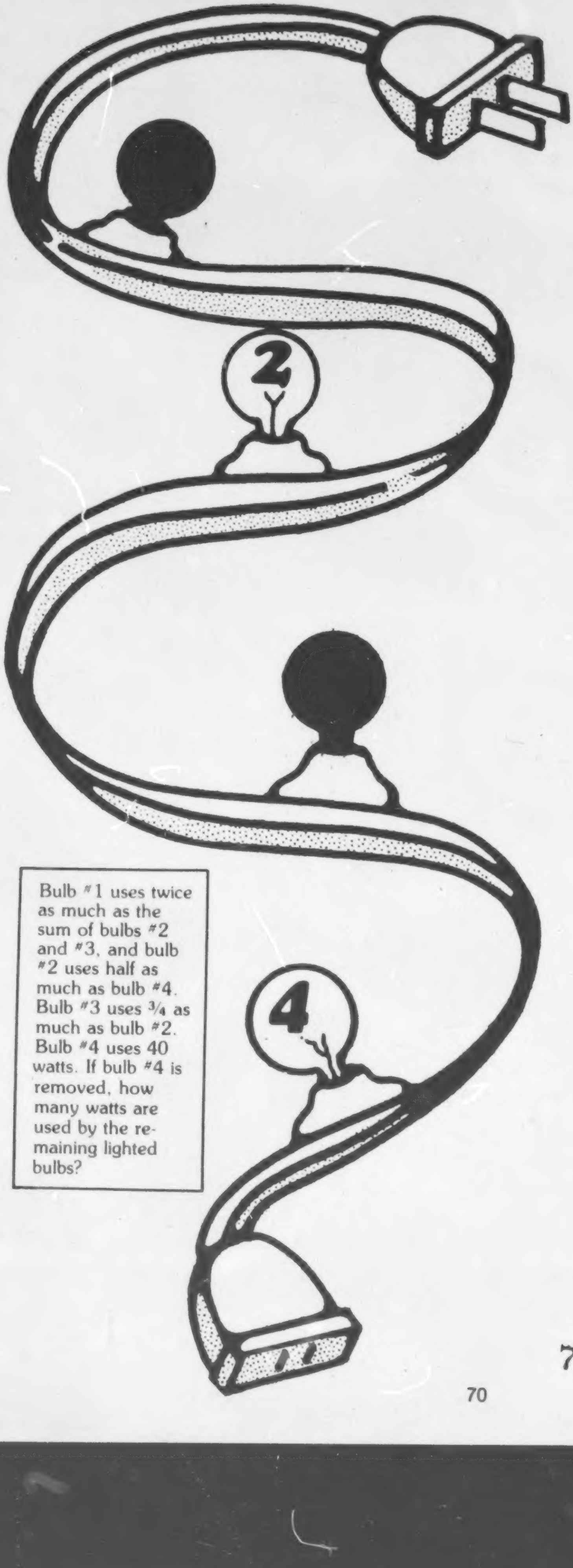
The student will identify an arithmetic procedure for solving the problem.

Directions:

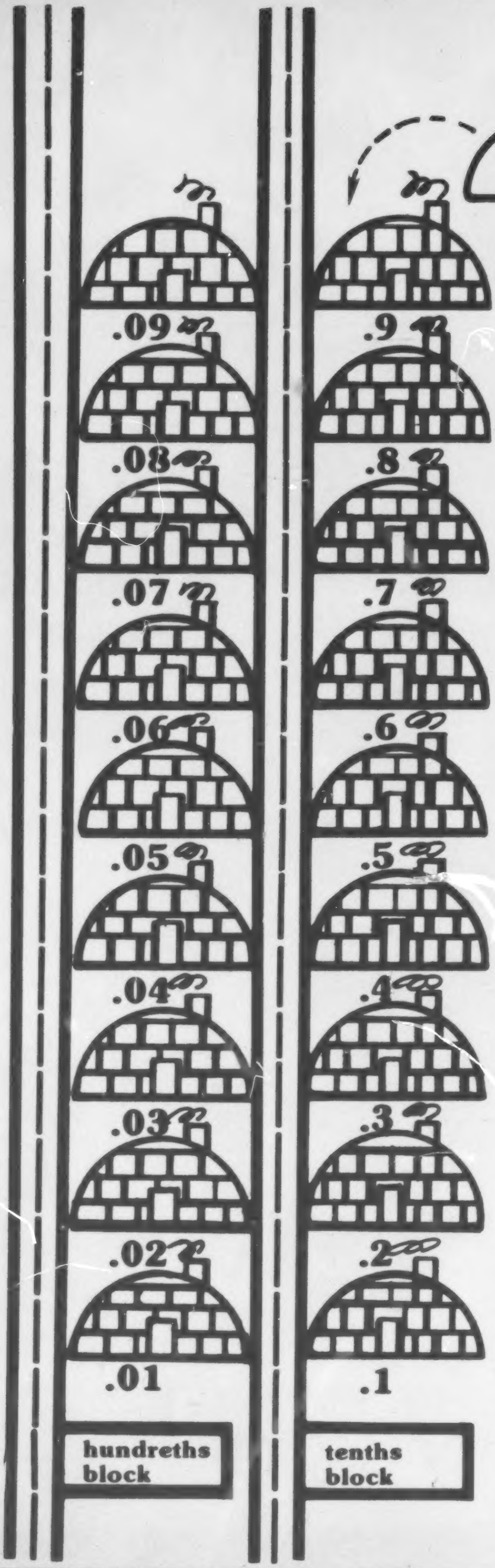
Have the student read the problem, write an arithmetic procedure for solving the problem and answer it.

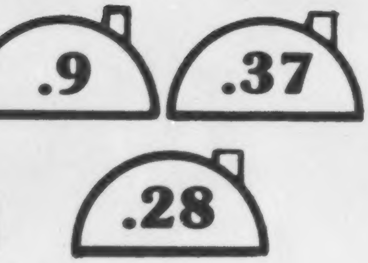
Follow-up Activities:

1. Invite an energy specialist from the community to discuss the basics of electricity and its use.
2. Have the students calculate the cost of kilowatt hours used by their school for a given period of time.



Bulb #1 uses twice as much as the sum of bulbs #2 and #3, and bulb #2 uses half as much as bulb #4. Bulb #3 uses ¾ as much as bulb #2. Bulb #4 uses 40 watts. If bulb #4 is removed, how many watts are used by the remaining lighted bulbs?





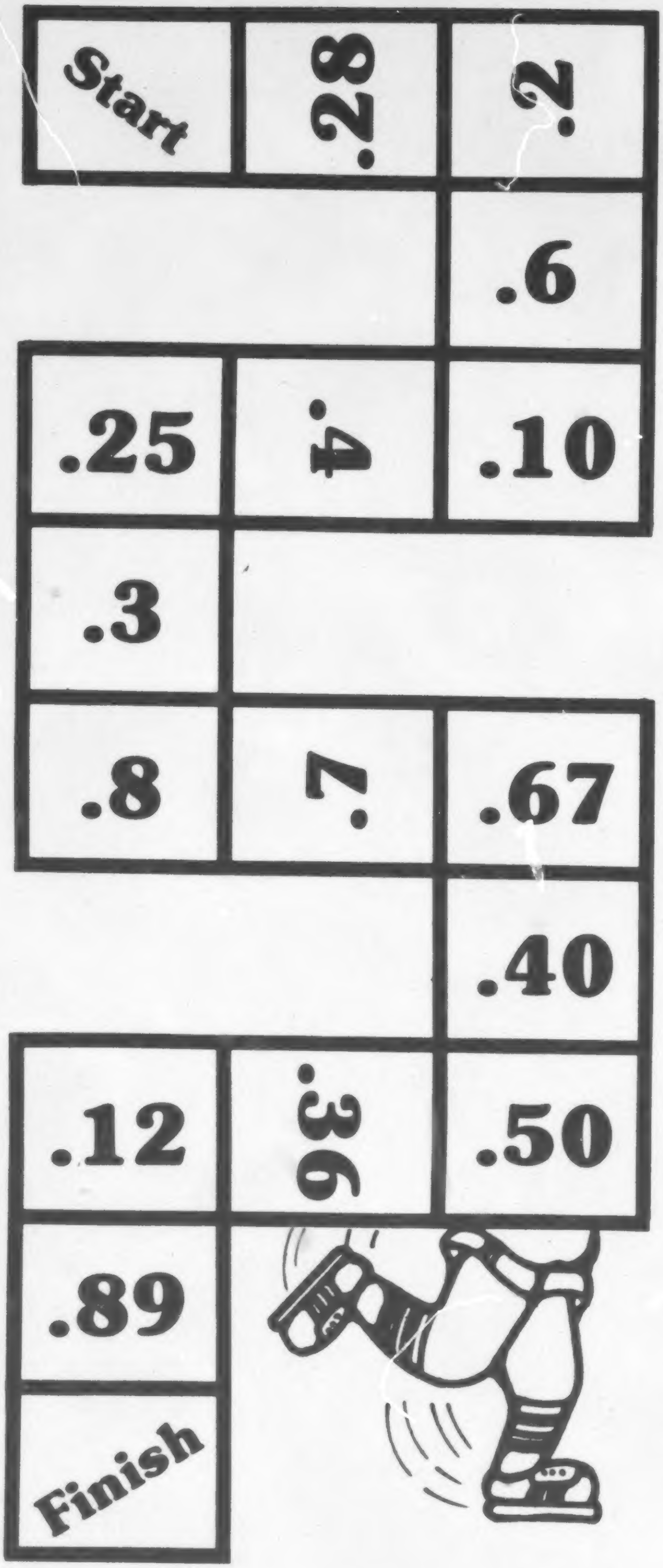
Every Decimal Has An Igloo

Skill #351
Basic Characteristics

Objective:
The student will identify the place value of a specified digit in a numeral.

Directions:
The student is given igloo shapes with decimal numerals written on them. He must match the underlined numeral on the igloo shape to the igloo on the block that names its place value. Add blocks for thousandths, for ten thousandths, and for millionths.

Follow-up Activities:
1. Have the student name the place value of the underlined digit on the igloo shapes.
2. Using blank igloo shapes, have the student write a decimal numeral for every igloo on the blocks.



Roundoff Relay

Skill #354
Rounding of Decimals

Objective:

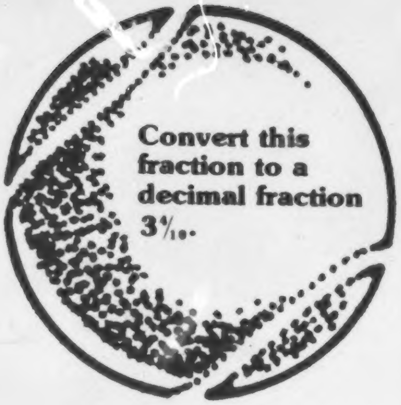
The student will identify the value of the decimal fraction rounded to the nearest hundreth, tenth, etc.

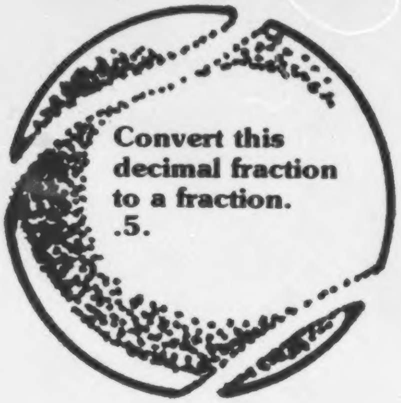
Directions:

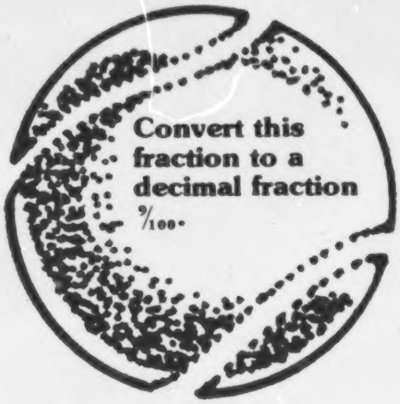
The students are given gameboards containing the same decimal numerals; however, the numerals are arranged differently on the gameboards. As the teacher calls out a decimal fraction, the student must round it to the nearest hundreth and/or tenth. The student must place a token on the gameboard for each answer; for example, .279 (.28, .3).

Follow-up Activities:

1. Have the student write two decimal fractions with three or more numerals that could be rounded to each number on the gameboard.
2. On the chalkboard, make a list of fifteen fractions, consisting of two and three-digit decimals. At a given signal, have the students round the decimals to the nearest tenth. The first to finish correctly is the winner.


Convert this fraction to a decimal fraction $\frac{3}{10}$.


Convert this decimal fraction to a fraction. .5.


Convert this fraction to a decimal fraction $\frac{9}{100}$.

CONVERSION CUP

Vie for the Conversion Cup

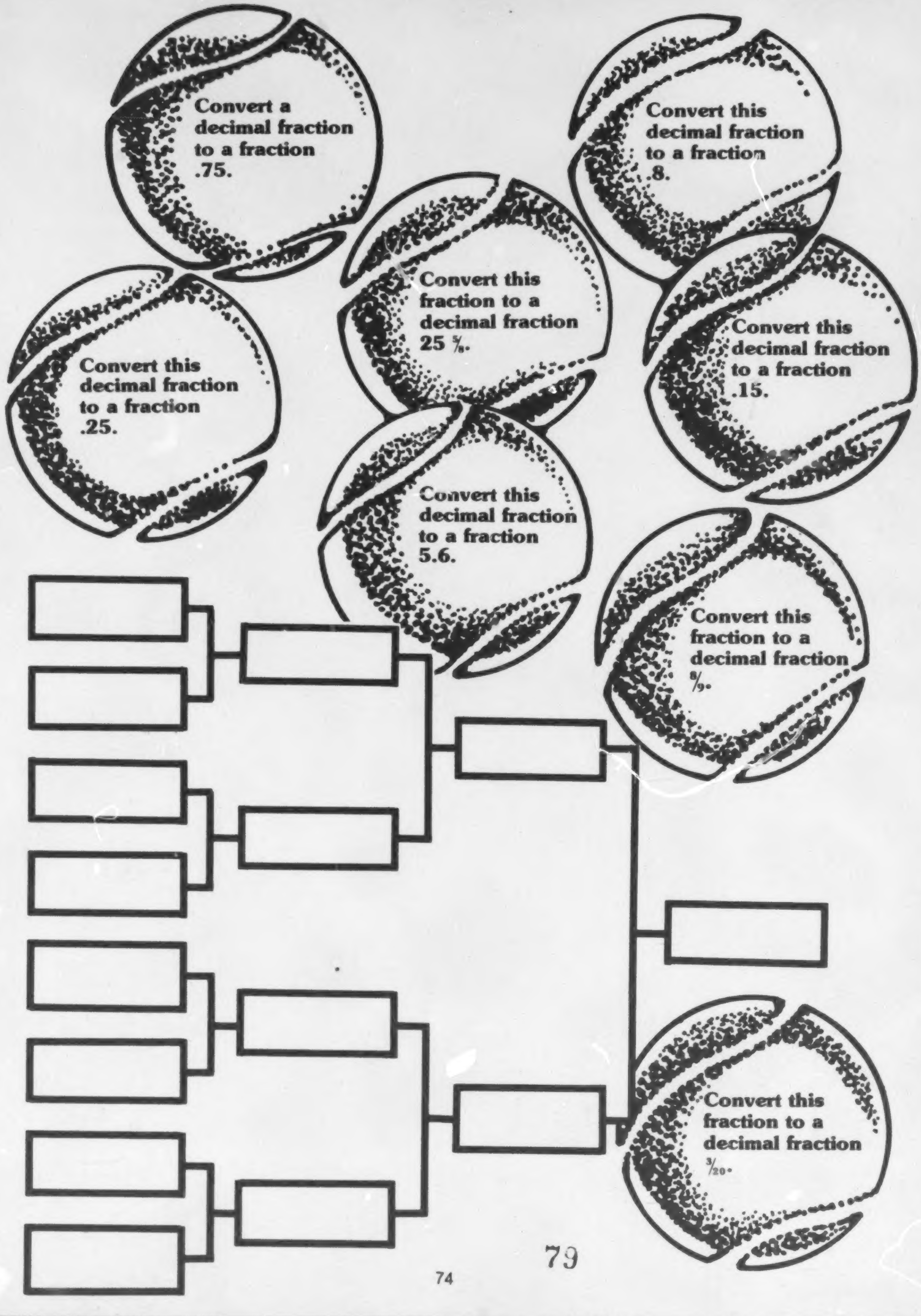
Skills #360, 363, 366
Conversion of Decimals

Objective:

The student will convert decimal fractions to fractions and fractions to decimal fractions.

Directions:

Two players take positions at opposite ends of the court (page 75). The server draws a tennis card and asks the receiver a question. If the receiver misses the answer, the server scores and draws another card. If the receiver answers correctly, he becomes the server and draws a card. The serve changes with each correct answer. Scoring is kept as in regular tennis. For example, 0, 15, 30, 40 game. The first player to win six games is the winner of the set. From this point, use the play-off chart on page 74.



Convert a decimal fraction to a fraction .75.

Convert this decimal fraction to a fraction .8.

Convert this fraction to a decimal fraction $25\frac{5}{8}$.

Convert this decimal fraction to a fraction .25.

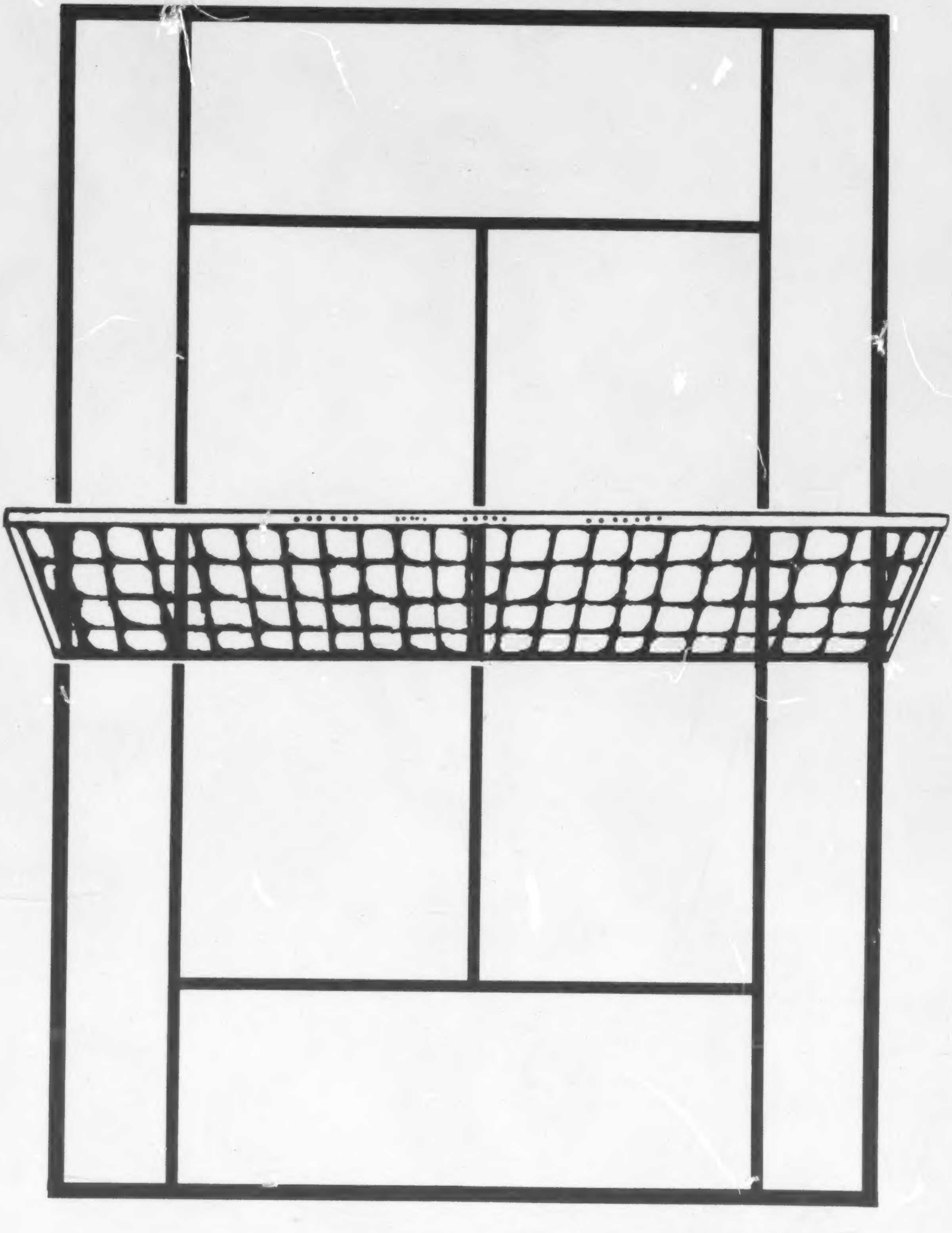
Convert this decimal fraction to a fraction .15.

Convert this decimal fraction to a fraction 5.6.

Convert this fraction to a decimal fraction $\frac{8}{9}$.

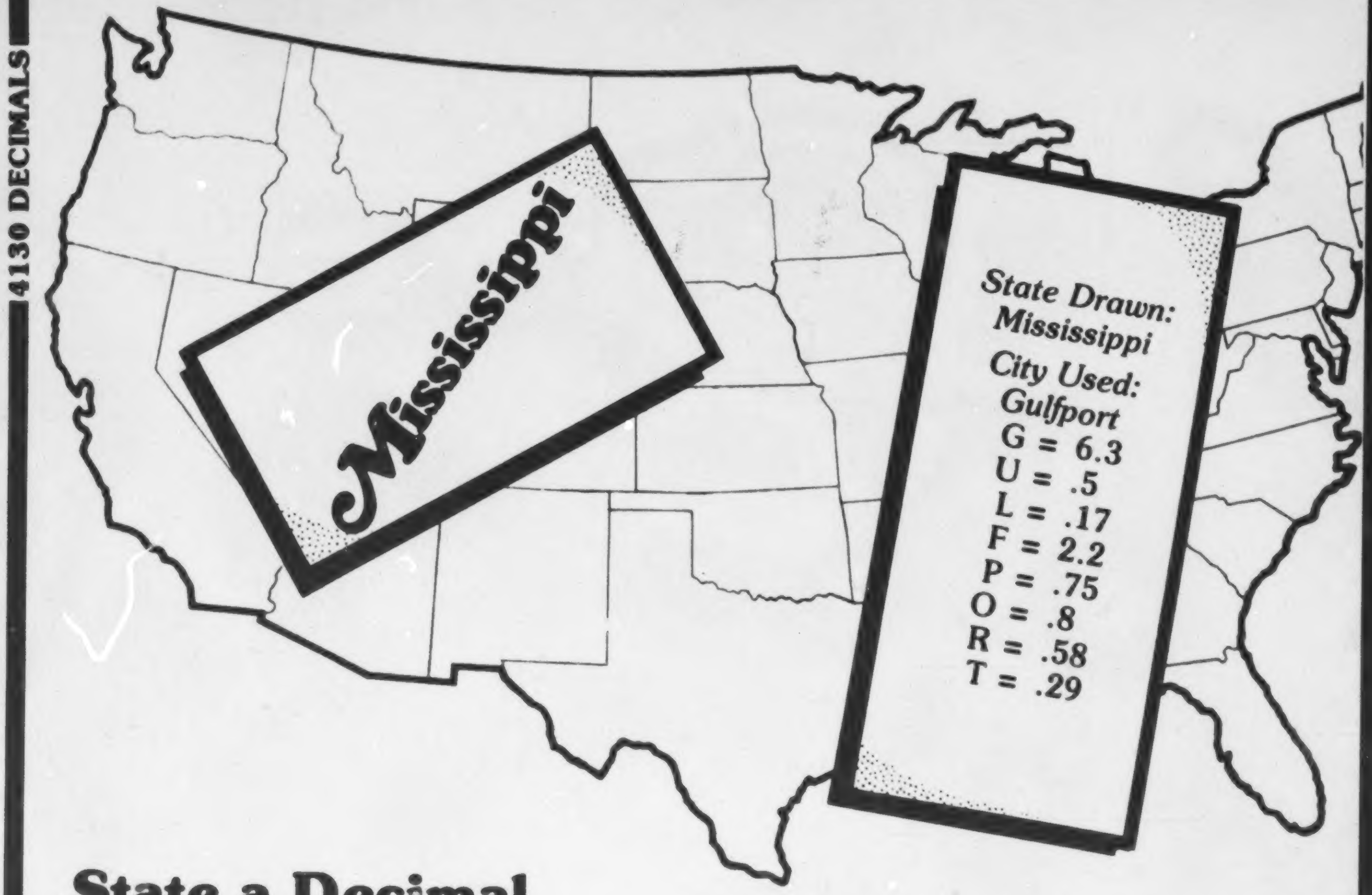
Convert this fraction to a decimal fraction $\frac{3}{20}$.

0, 15, 30, 40 game



...vie for Conversion Cup

4120 DEMICALS



State Drawn:
Mississippi
City Used:
Gulfport
G = 6.3
U = .5
L = .17
F = 2.2
P = .75
O = .8
R = .58
T = .29

State a Decimal

Skills #369, 373, 375, 378
Addition of Decimals

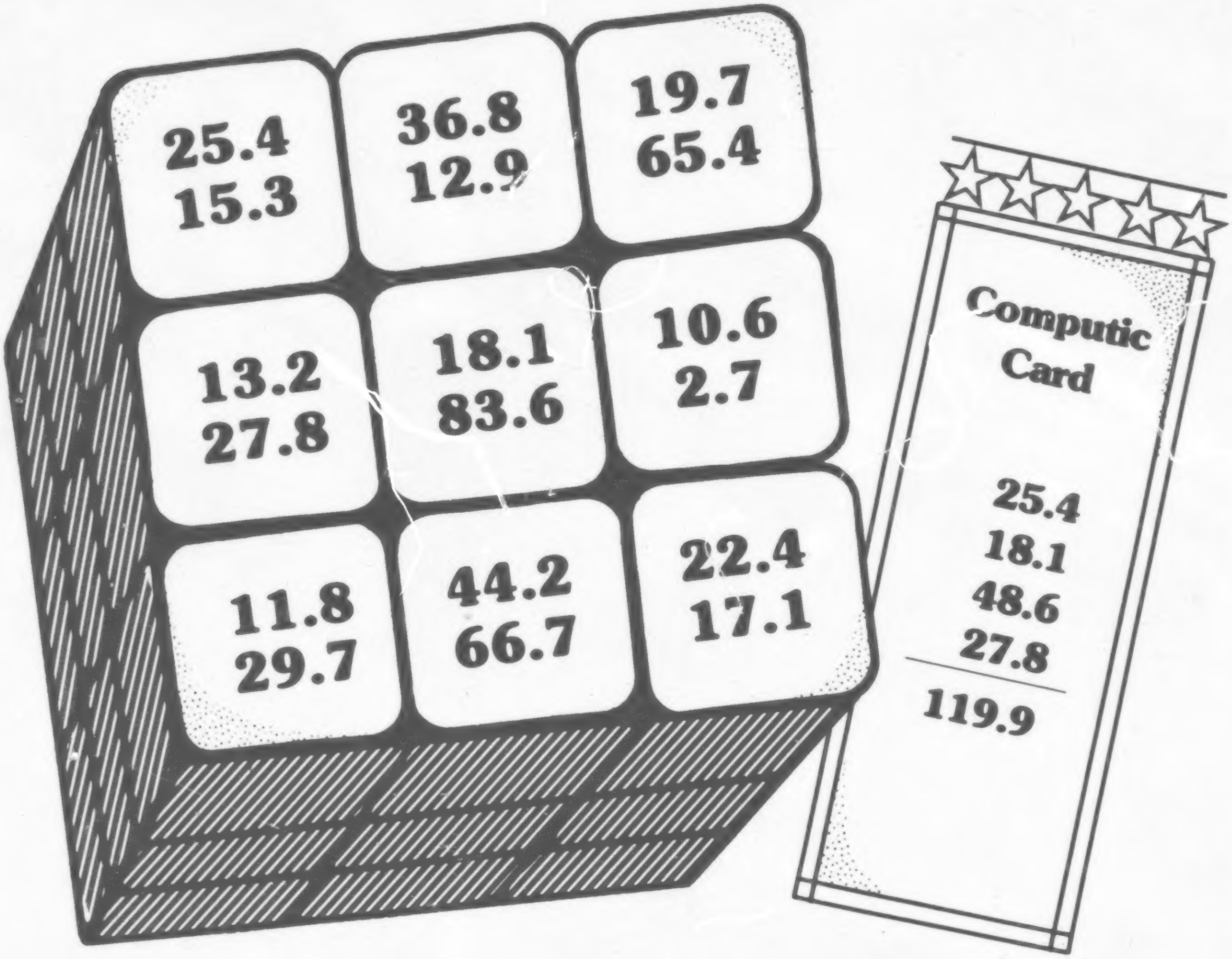
Objective:
The student will compute the sum.

Directions:
A card is made for each of the fifty states in America. In alternating turns, each student draws a card and turns it face up. Beginning with the first player, each names a city in that state and determines his score by adding the value of the letters in the name of the city (value board shown on opposite page). An example is shown above. The first player who gives the capital of the state drawn may add 10.5 bonus points to his score. The player with the highest score wins the state card. At the end of the game, the one with the most cards is the winner.

Follow-up Activities:
1. At a given signal, call out a word to see which student can find its value first.
2. Have the students write coded messages, using the decimals on the value board as symbols; have them exchange and decode the messages.

State A Decimal Value Board...

A .6	**B** .9	**C** .68	**D** 5.9	**E** .33
F 2.2	**G** 6.3	**H** 2.5	**I** 8.6	**J** .48
K 6.7	**L** .17	**M** 1.33	**N** 2.9	**O** .8
P .75	**Q** 5.6	**R** .58	**S** 3.4	**T** .29
U .5	**V** 3.2	**W** 4.9	**X** 20.7	**Y** 7.9
Z 19.9	♥	♥	♥	♥


25.4
15.3
36.8
12.9
19.7
65.4
13.2
27.8
18.1
83.6
10.6
2.7
11.8
29.7
44.2
66.7
22.4
17.1
Computic Card
25.4
18.1
48.6
27.8
119.9

"Compu-tic" Cube

Skill #375
Addition of Decimals

Objective:
The student will compute the sum of decimals.

Directions:
A winning number is given to the students; for example, 120. Each student chooses four numbers from different squares and computes their sum on the "computic" card. The student who comes closest to the winning number without going over is the "Computic Cube Champ."

Follow-up Activities:

1. Have the student find the difference of the two decimal fractions in each square. For added fun, time the students to determine the winner.
2. Have the student find the total sum of the computic cube by adding all of the decimal fractions.

Migrant Magpies

Race for the Pennant

Skills #381, 387, 390
Subtraction of Decimals

Objective:

The student will compute the difference.

Directions:

This activity requires two or more students playing on opposing teams; it is played like the conventional game of baseball except that each team is allowed one out per inning. The first student to bat chooses a problem from the single, double, triple or home run stack. Singles will be the easiest and home runs the hardest. An umpire is chosen to hold the answer key. If the first batter answers the problem correctly, he moves to the base indicated on the card. If the batter misses the problem, he is out and the opposing team is up to bat. The number of runs determines the score.

Compute the difference
6.7 – 1.8 =
Triple

Compute the difference
.06 – .03 =
Single

Compute the difference
.09 – .04 =
Single

Compute the difference
.608 – .438 =
Double

Compute the difference
12.03 – .8 =
Home Run

Compute the difference
6.04 – .3 =
Home Run

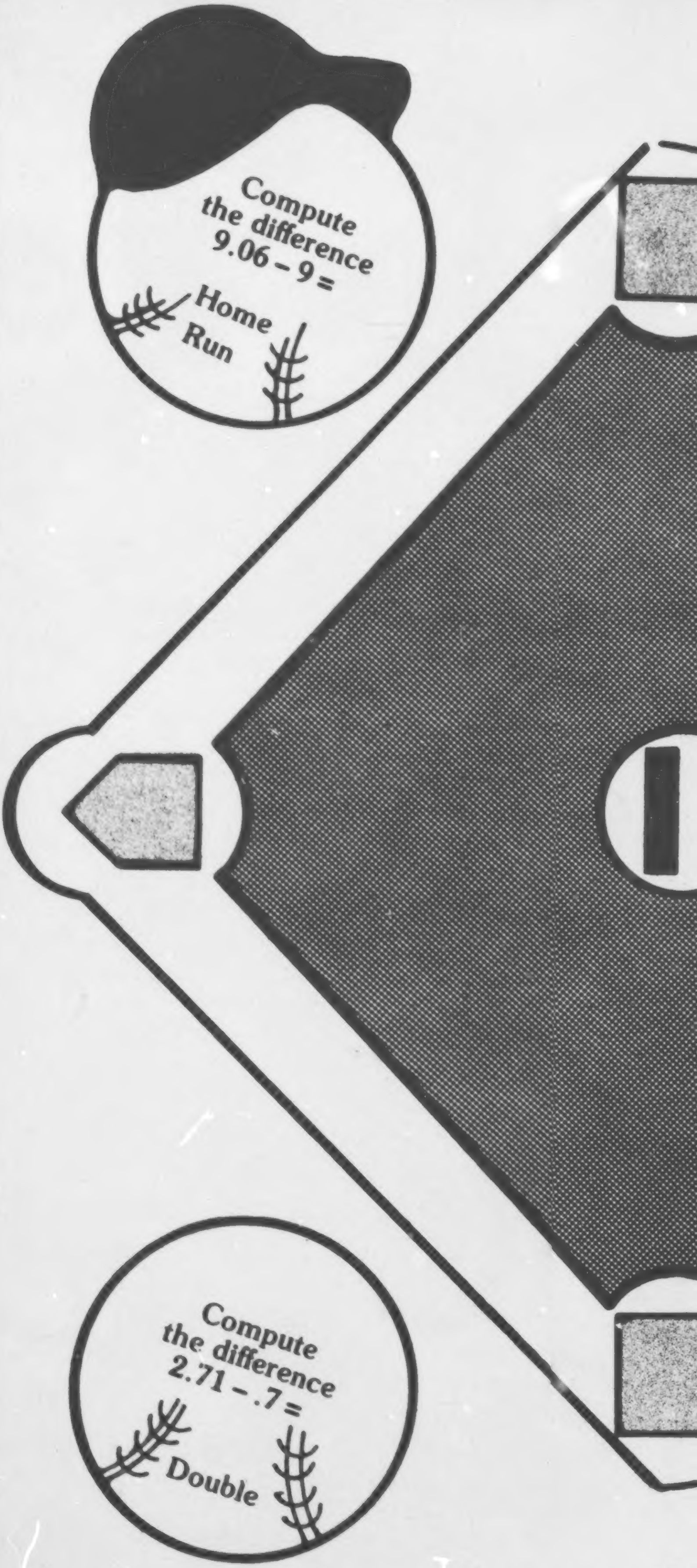
Compute the difference
.738 – .259 =
Triple

Compute the difference
6.3 – 2.2 =
Single

Compute the difference
.53 – .08 =
Double

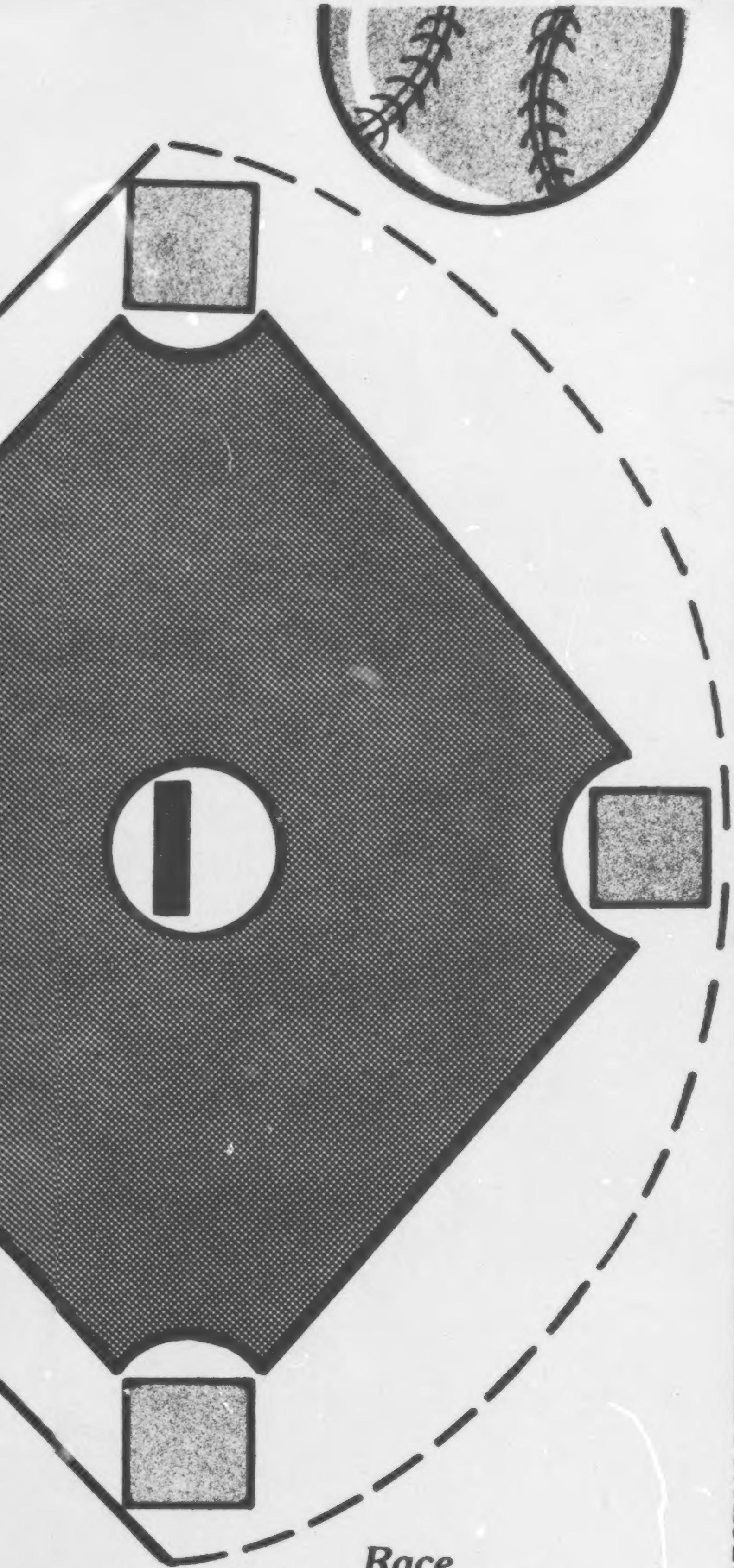
Compute the difference
8.09 – .7 =
Home Run

Compute the difference
23.18 – 12.06 =
Double



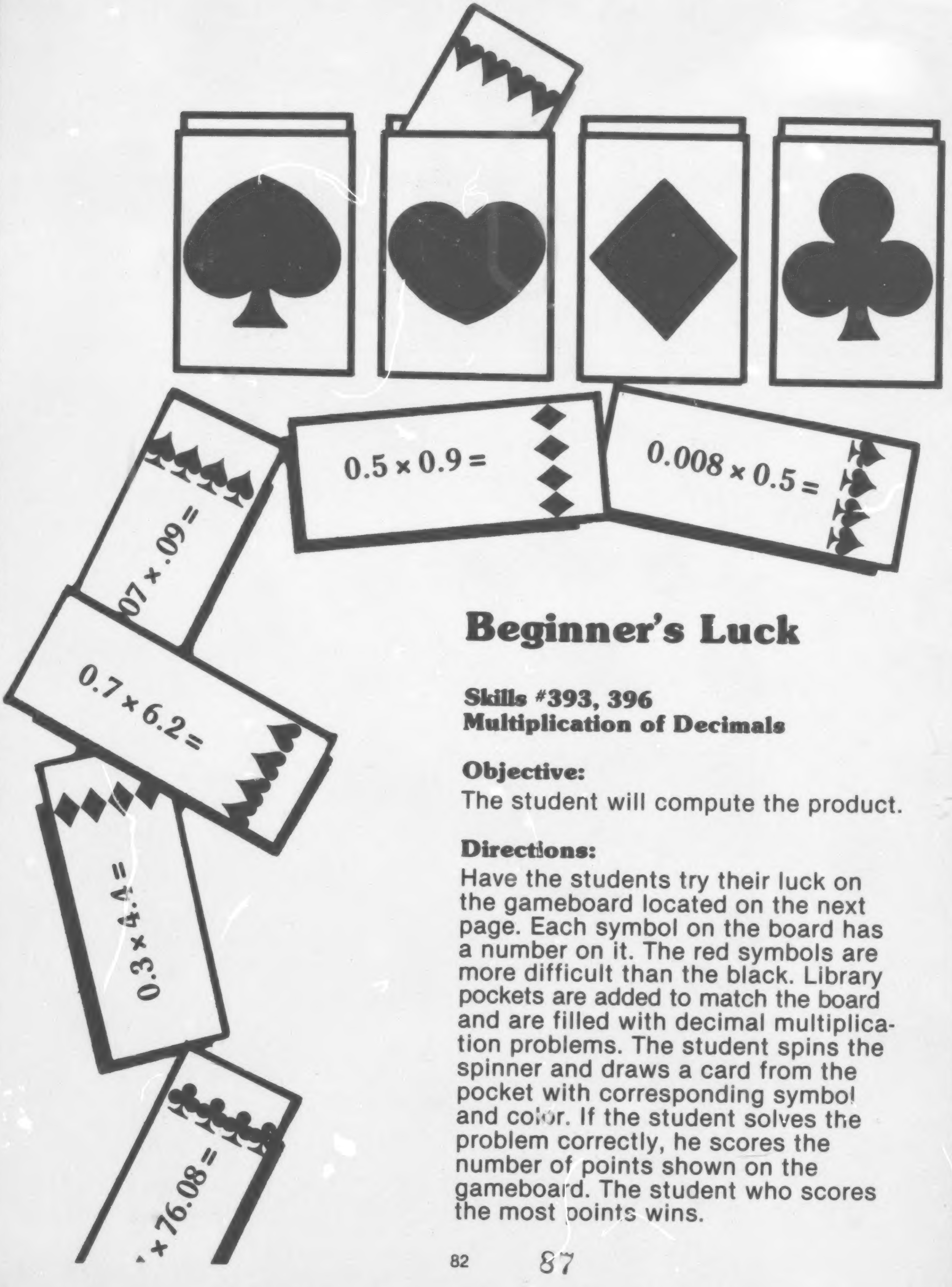
Compute the difference
$9.06 - 9 =$
Home Run

Compute the difference
$2.71 - .7 =$
Double



Race
For the Pennant

4140 DECIMALS

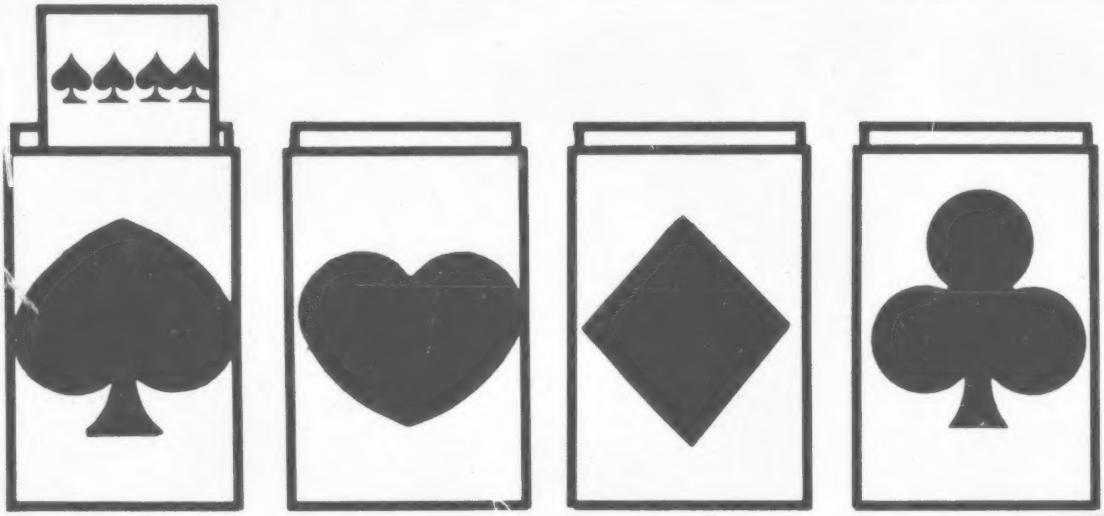


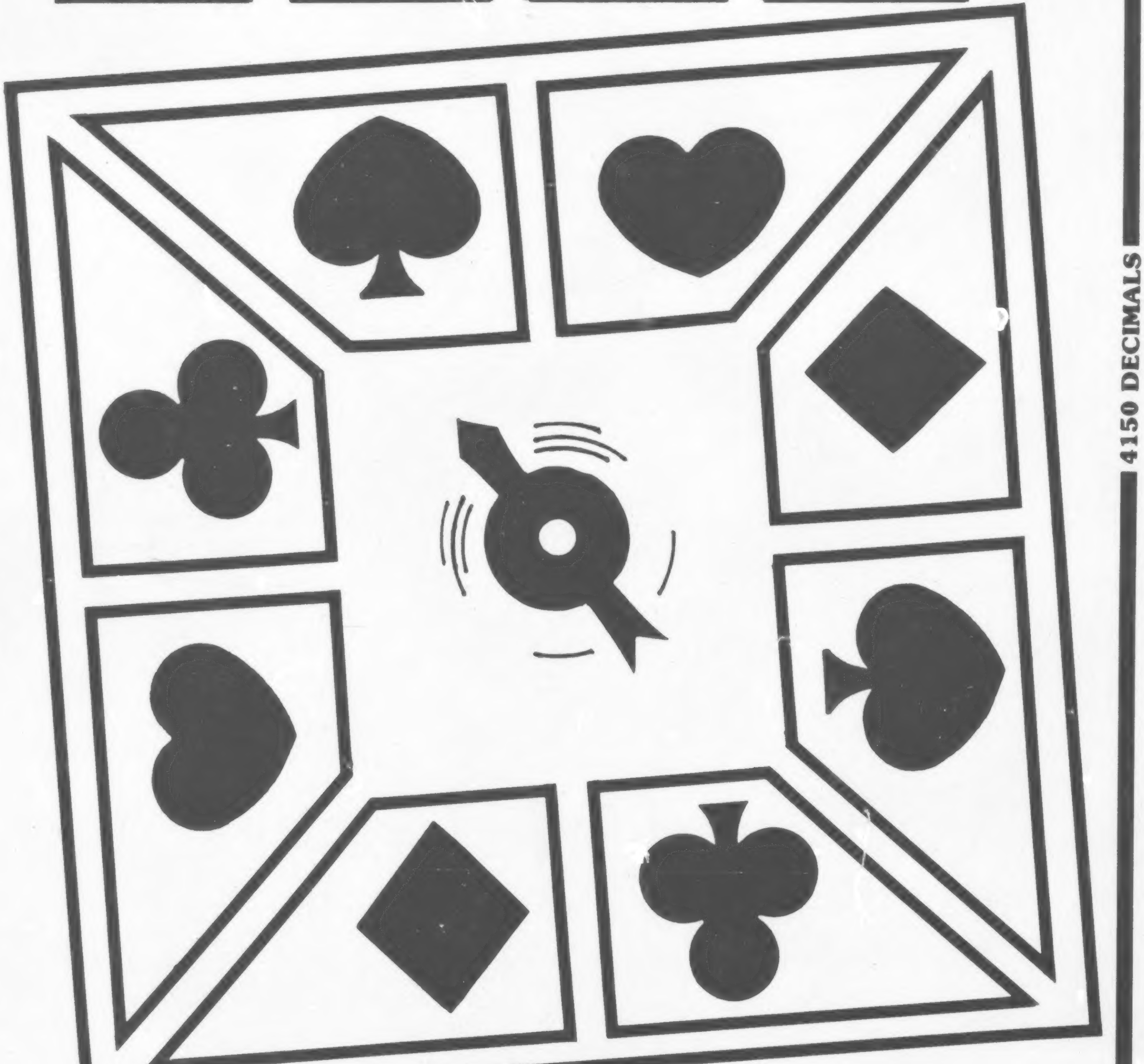
Beginner's Luck

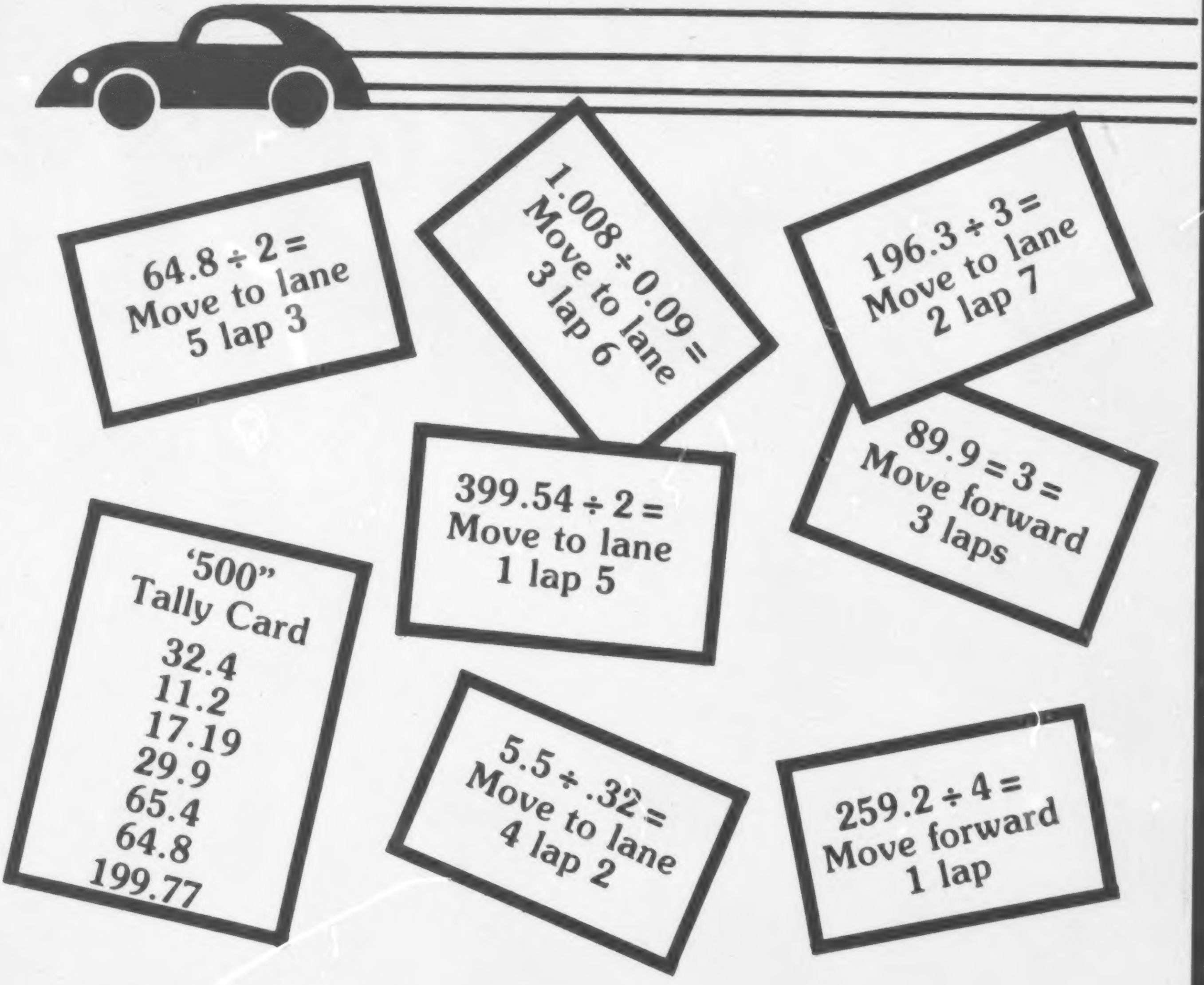
Skills #393, 396
Multiplication of Decimals

Objective:
The student will compute the product.

Directions:
Have the students try their luck on the gameboard located on the next page. Each symbol on the board has a number on it. The red symbols are more difficult than the black. Library pockets are added to match the board and are filled with decimal multiplication problems. The student spins the spinner and draws a card from the pocket with corresponding symbol and color. If the student solves the problem correctly, he scores the number of points shown on the gameboard. The student who scores the most points wins.






64.8 ÷ 2 =
Move to lane
5 lap 3
1.008 ÷ 0.09 =
Move to lane
3 lap 6
196.3 ÷ 3 =
Move to lane
2 lap 7
399.54 ÷ 2 =
Move to lane
1 lap 5
89.9 = 3 =
Move forward
3 laps
'500"
Tally Card
32.4
11.2
17.19
29.9
65.4
64.8
199.77
5.5 ÷ .32 =
Move to lane
4 lap 2
259.2 ÷ 4 =
Move forward
1 lap

Division "500"

Skills #399, 402
Division of Decimals

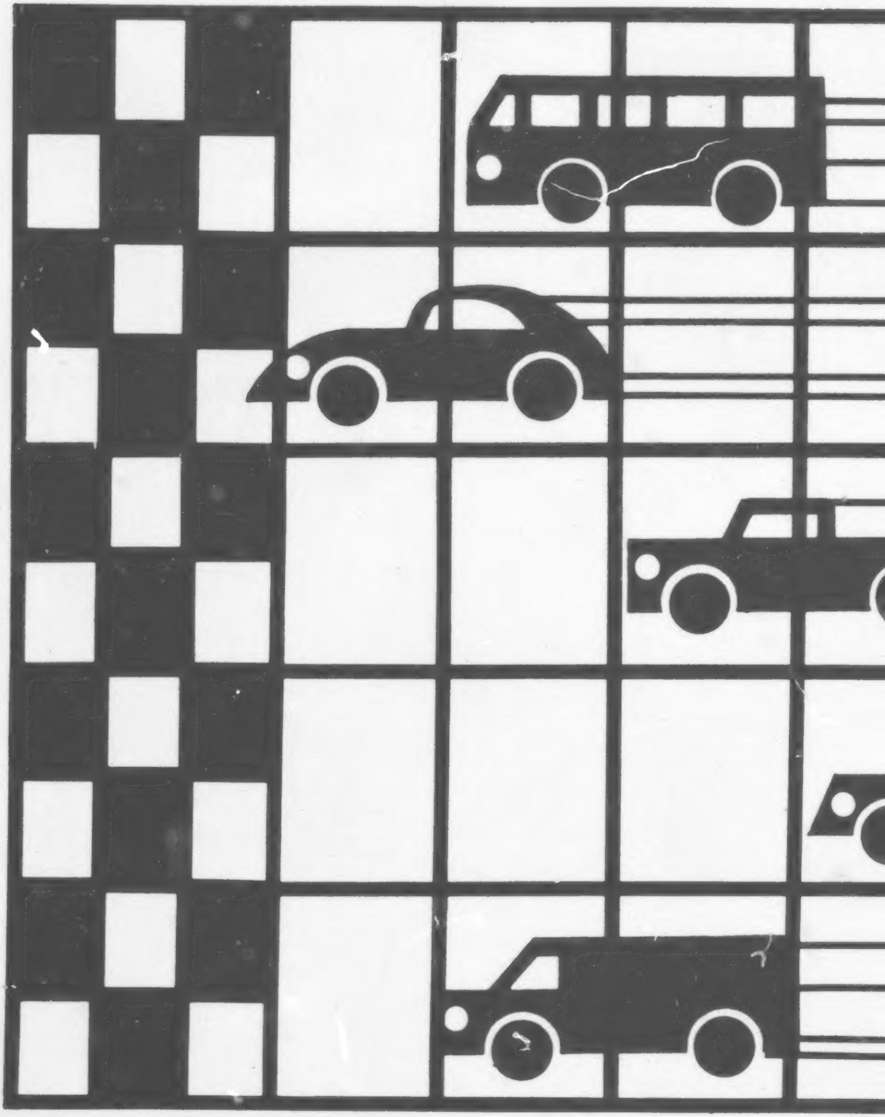
Objective:

The student will compute the quotient.

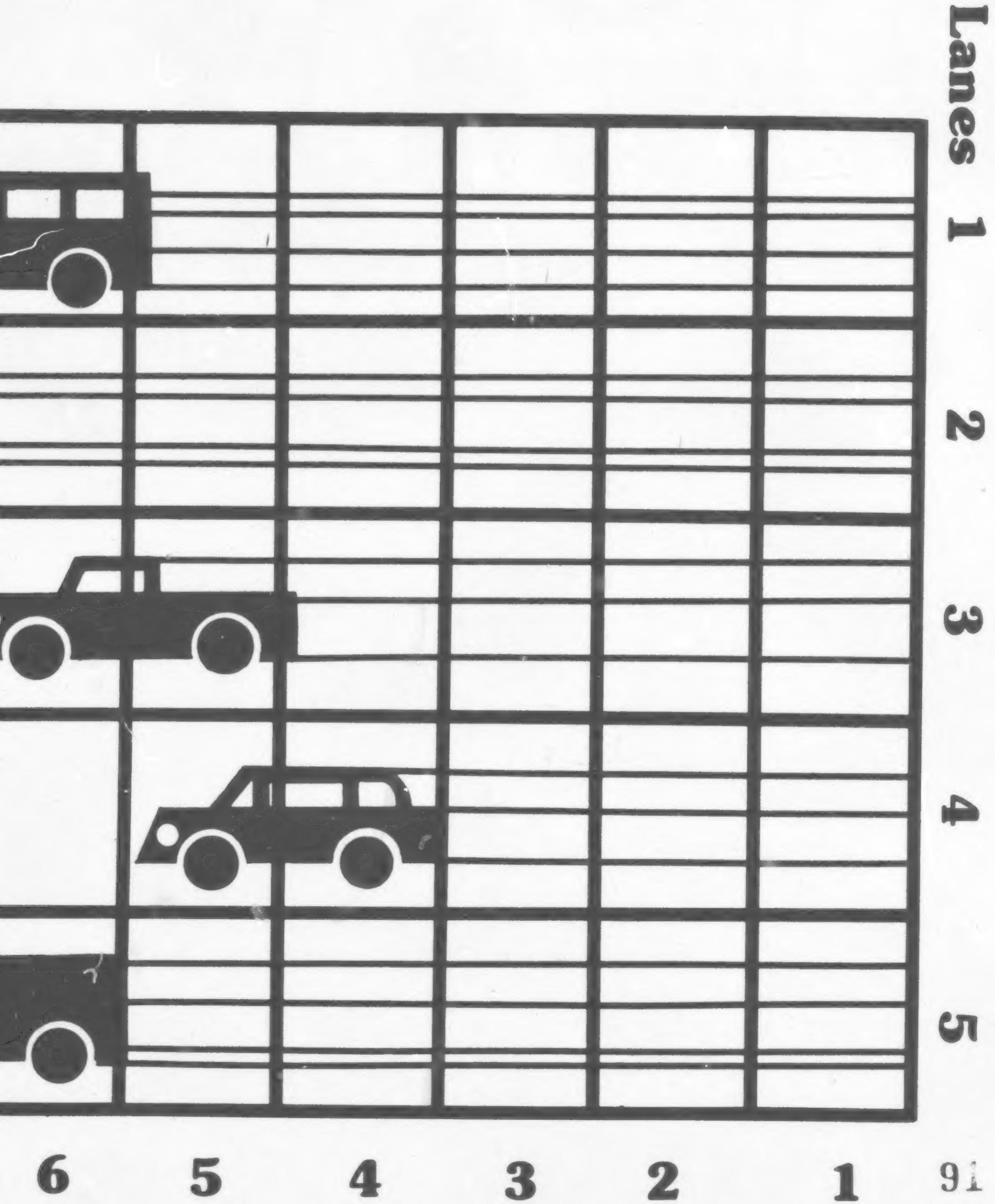
Directions:

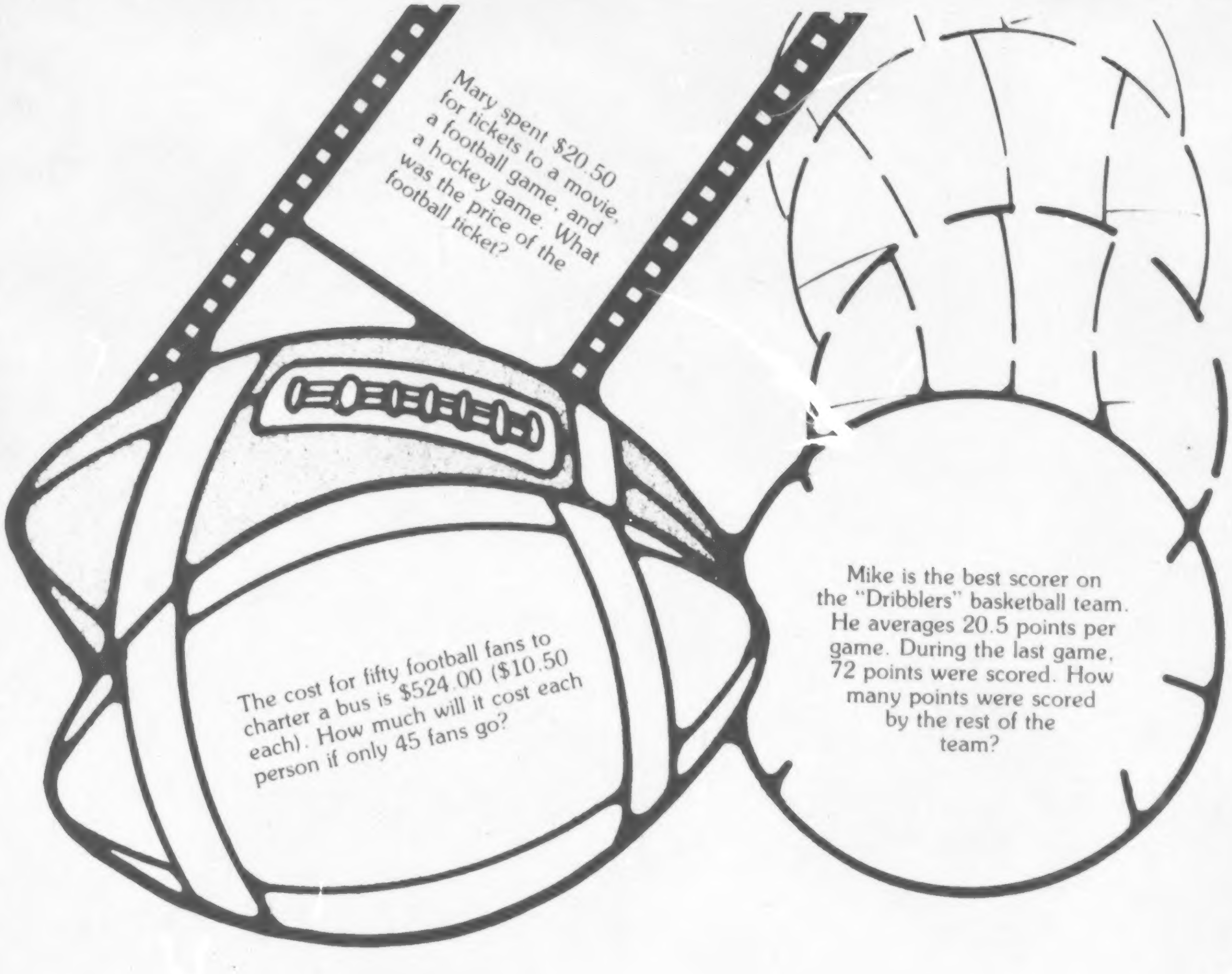
Each player places his toy marker in a numbered starting lane on the adjacent gameboard. In turn, each student draws a card and answers the division problem. If correct, he follows the directions on the card and adds the quotient to his "500" tally card. If incorrect, he stays where he is. Each time he reaches the end of his lane, he adds fifty points (50) and starts over. The first student to reach 500 with his quotients and bonuses is the winner.

Division "500"



90 **Laps 8 7 6 5**


Lanes
1
2
3
4
5
6
5
4
3
2
1



Mary spent $20.50 for tickets to a movie, a football game, and a hockey game. What was the price of the football ticket?

The cost for fifty football fans to charter a bus is $524.00 ($10.50 each). How much will it cost each person if only 45 fans go?

Mike is the best scorer on the "Dribblers" basketball team. He averages 20.5 points per game. During the last game, 72 points were scored. How many points were scored by the rest of the team?

Sporty Decimals

Skills #405, 408, 414
Word Problems Involving Decimals

Objective:

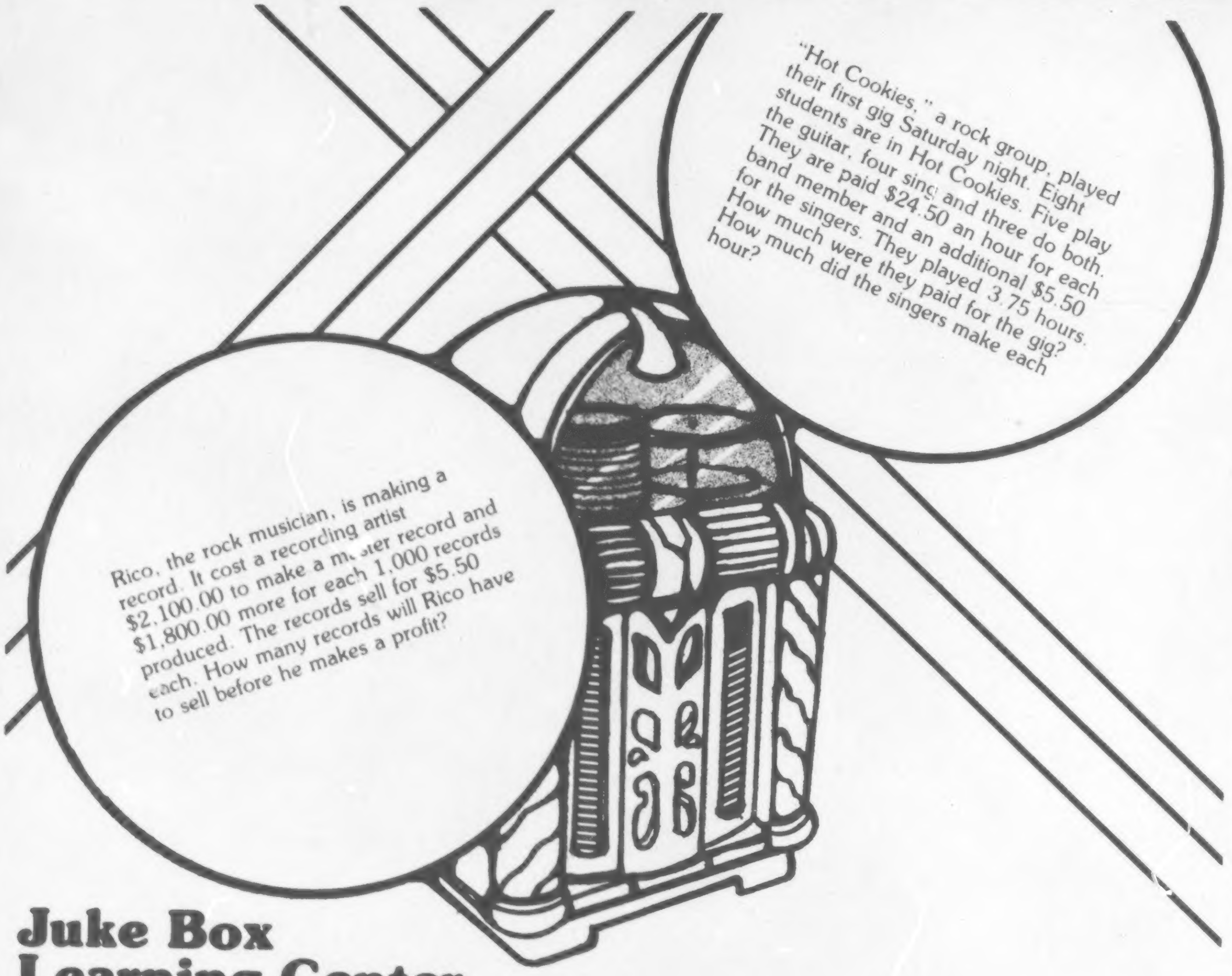
The student will identify an arithmetic procedure for solving the problem.

Directions:

Have the student read the problems above and write a number sentence to solve the problems. Using the number sentence, have the student answer the problems.

Follow-up Activities:

1. Have the students compute the average points scored per game of the five top scorers on their school's basketball team.
2. Using the number of people in his family, have each student compute the cost of season tickets to the local high school football games.



"Hot Cookies," a rock group, played their first gig Saturday night. Eight students are in Hot Cookies. Five play the guitar, four sing and three do both. They are paid $24.50 an hour for each band member and an additional $5.50 for the singers. They played 3.75 hours. How much were they paid for the gig? How much did the singers make each hour?

Rico, the rock musician, is making a record. It cost a recording artist $2,100.00 to make a master record and $1,800.00 more for each 1,000 records produced. The records sell for $5.50 each. How many records will Rico have to sell before he makes a profit?

Juke Box Learning Center

Skills #408, 417
Word Problems Involving Decimals

Objective:
The student will identify an arithmetic procedure for solving the problem.

Directions:
Have the student read the problems listed above and write an arithmetic procedure for solving the problems. Then, have the student answer the problems, using the procedure.

Follow-up Activities:

1. Have one student choose and play a record for the others. Have each student rate it on a scale from 1 to 100 and find the average rating for the class.
2. Have the student figure the cost of playing his favorite recording on a juke box for one hour at the rate of $.25 a selection.

Juke Box Learning Center

A B C D E F G H I J
1 2 3 4 5 6 7 8 9 0

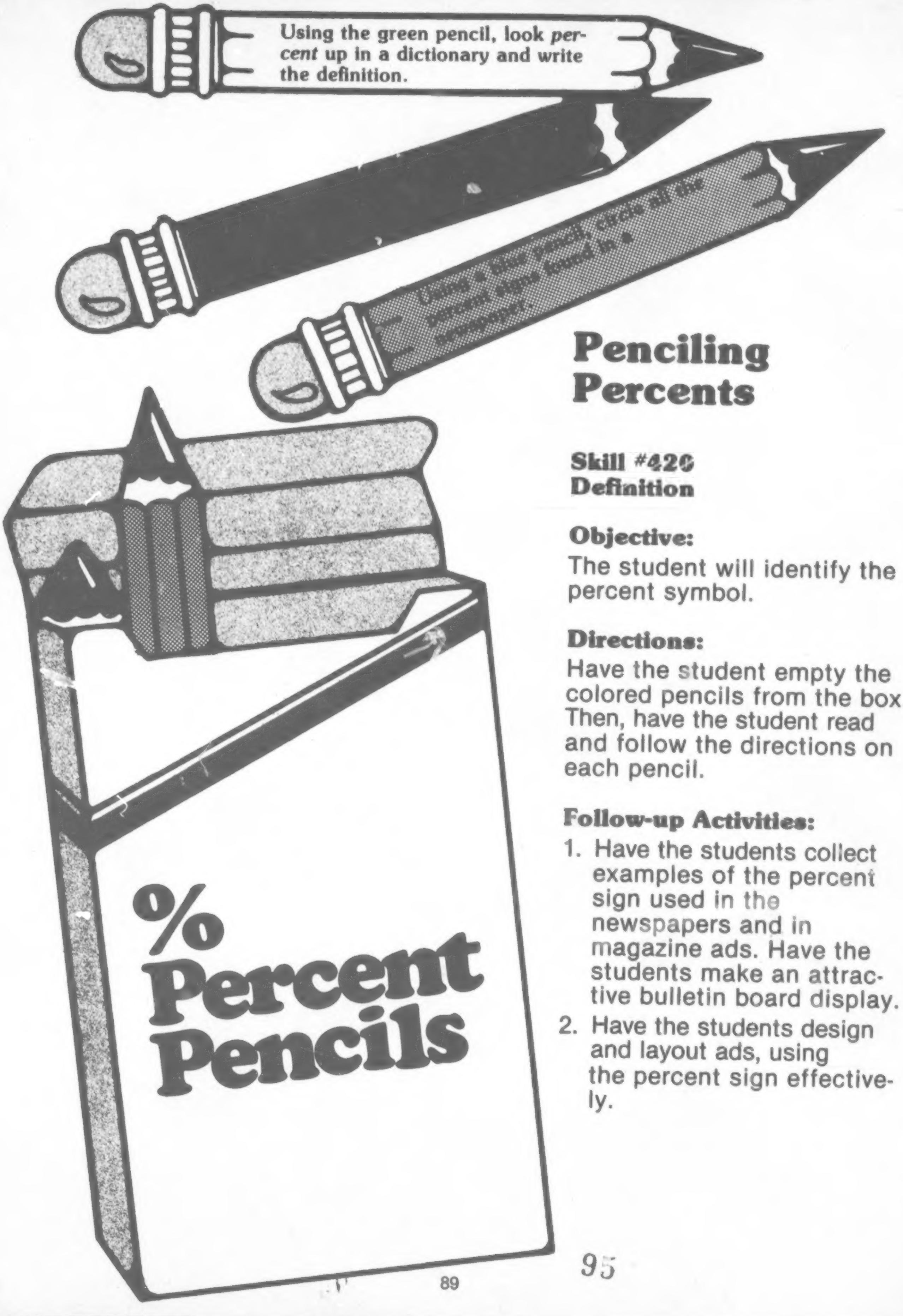
Top Ten Tunes!!!

"The Watusi"	29.2
"The Flying Purple People Eater"	85.8
"Monster Mash"	92.4
"Little Old Lady From Pasadena"	64.7
"Itsy Bitsey Teenie Weenie Yellow Polka Dot Bikini"	98.3
"Ahab The Arab"	77.1
"The Streak"	62.2
"Mack The Knife"	51.6
"Lollipop"	95.7
"Splish Splash I Was Taking A Bath"	44.2

Name the top tune; by what margin did it win over the number two tune?

Find the average of the top three tunes.

Make your selection below:


Using the green pencil, look *percent* up in a dictionary and write the definition.

Using a blue pencil, circle all the percent signs found in a newspaper.

Penciling Percents

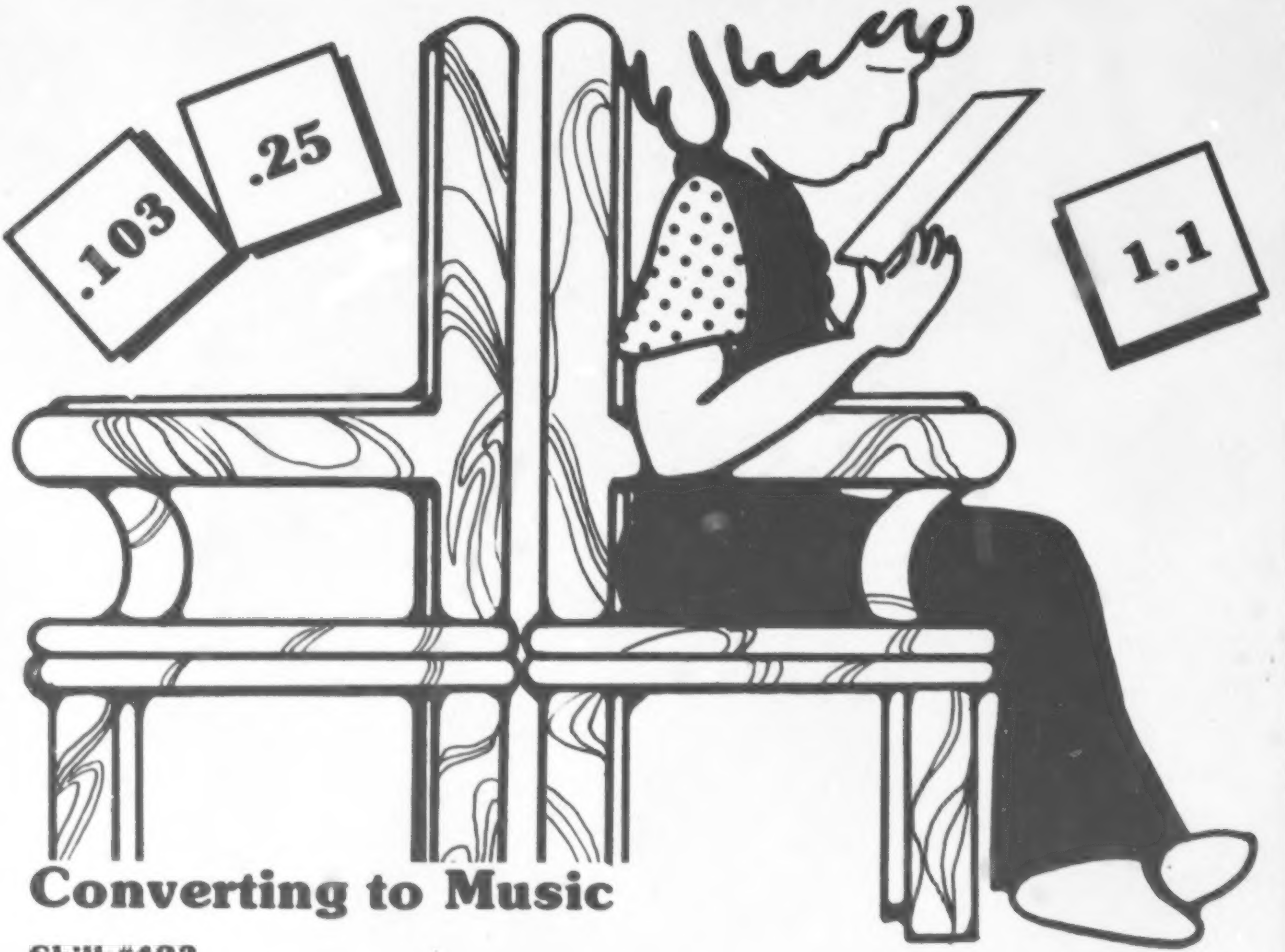
Skill #420
Definition

Objective:
The student will identify the percent symbol.

Directions:
Have the student empty the colored pencils from the box. Then, have the student read and follow the directions on each pencil.

Follow-up Activities:

1. Have the students collect examples of the percent sign used in the newspapers and in magazine ads. Have the students make an attractive bulletin board display.
2. Have the students design and layout ads, using the percent sign effectively.



Converting to Music

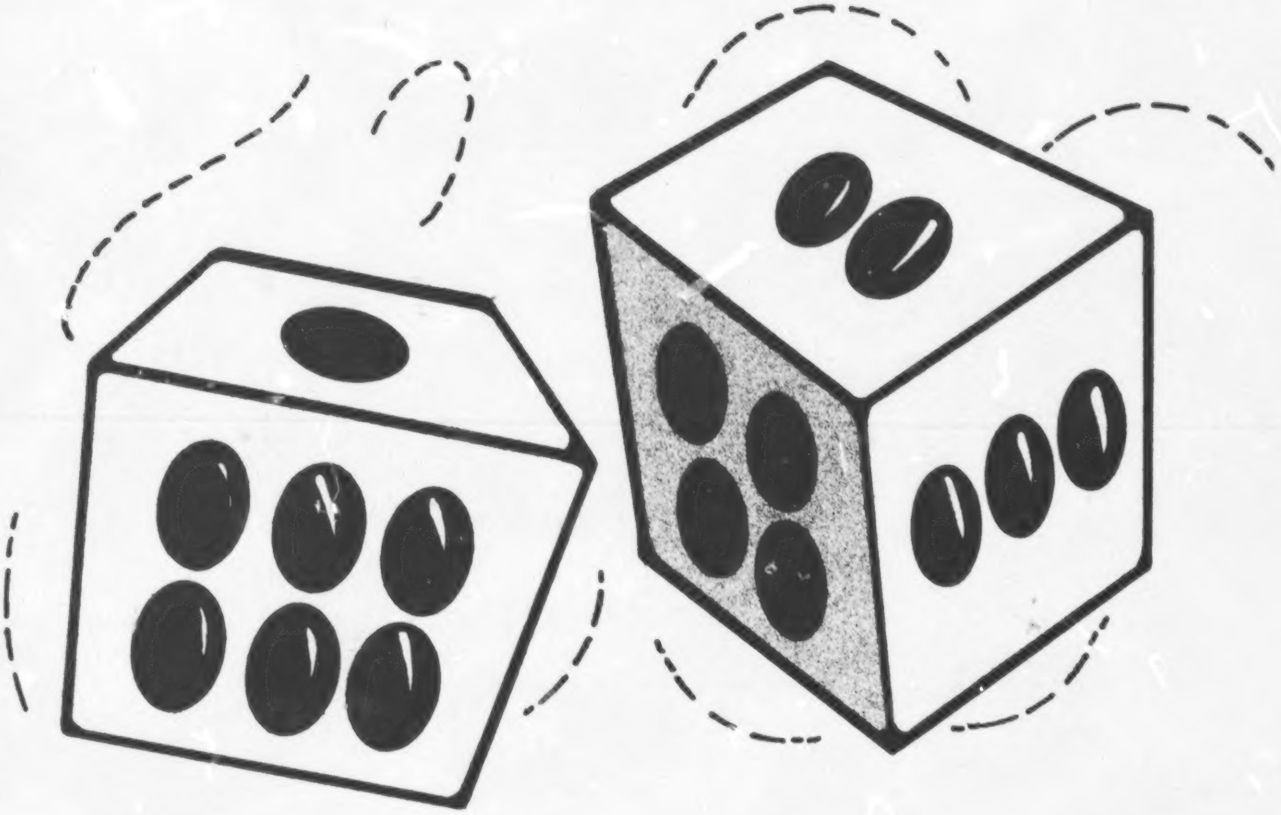
Skill #423
Converting Decimals to Percentages

Objective:
The student will identify an equivalent percent.

Directions:
This activity is played similar to the traditional "Musical Chairs." Students' chairs are placed in a row back to back. On each chair place a decimal fraction, leaving out one chair. The students circle the chairs as the music is played and sit down when it stops. Each student, in turn, converts his decimal to a percent. If the student who does not have a problem, catches someone in error, he may take his place in the game.

Follow-up Activities:

1. Use the same chair arrangement as the above activity. While the music plays, the students stay seated as one card is passed. When the music stops, the student holding the card must give the answer.
2. Divide the students into two teams, placing half the cards from the major activity in front of each team. At a given signal, the first student of each team must take a card, go to the chalkboard, and convert the decimal to a percent. The game continues in relay fashion.

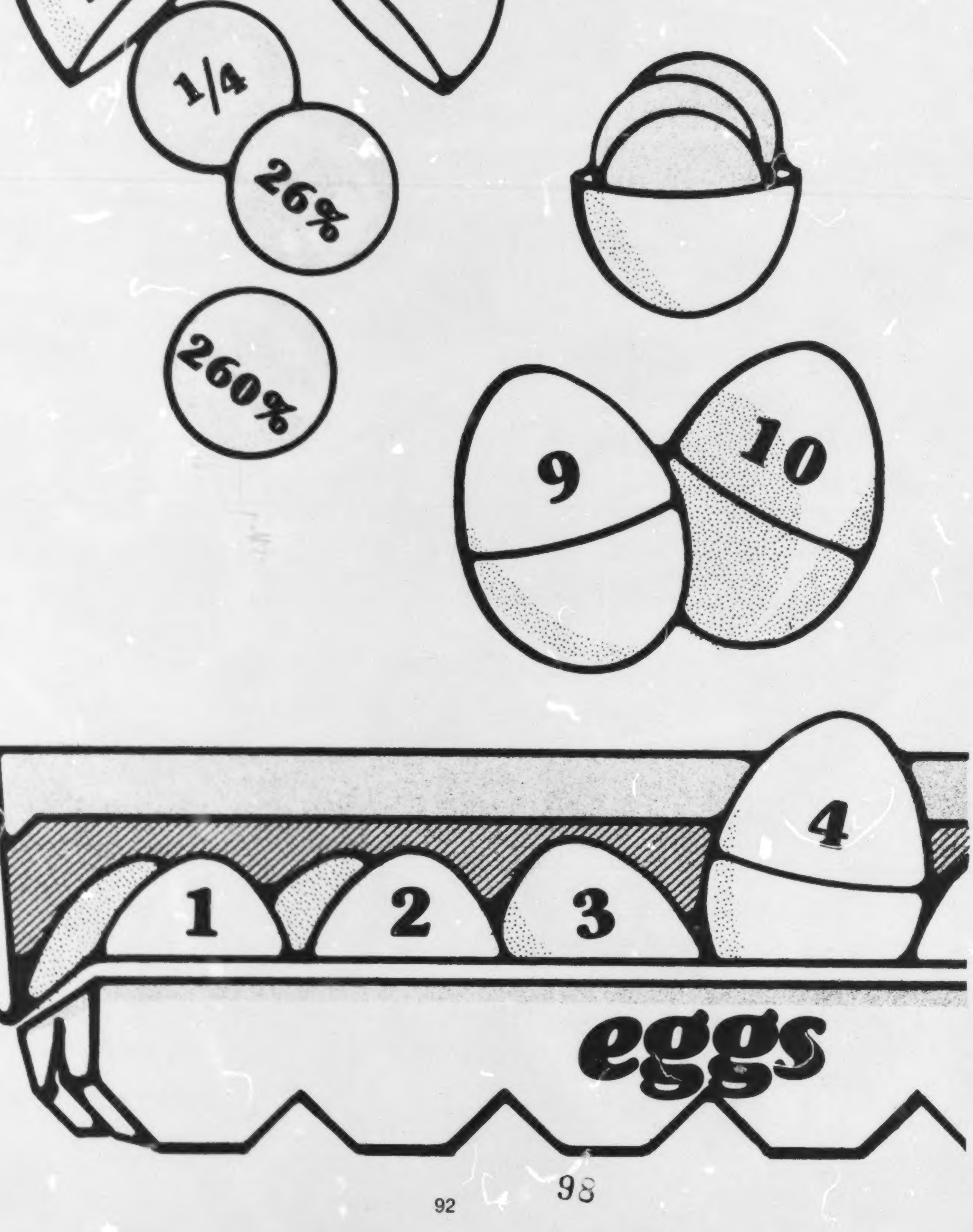


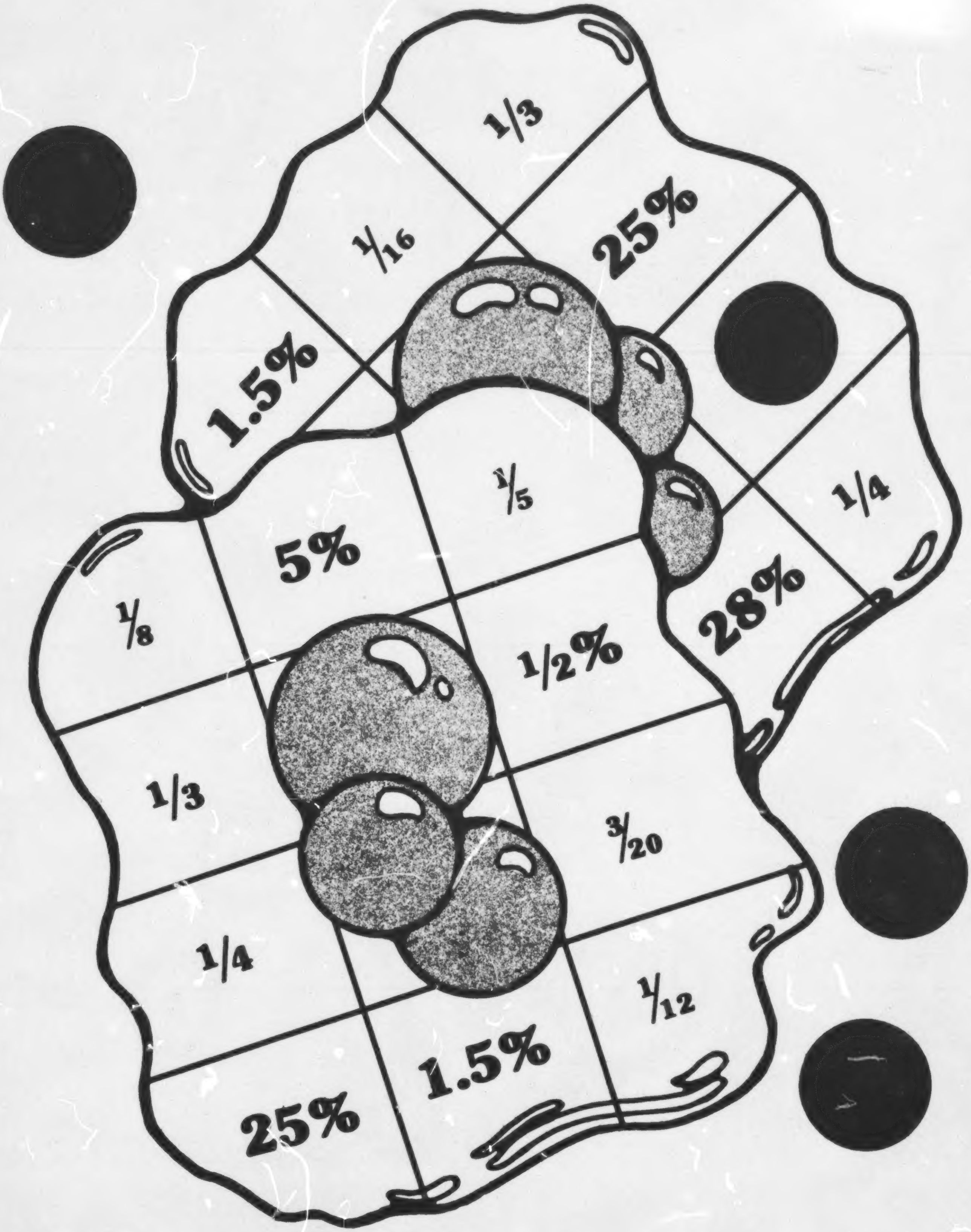
Triple Yolk

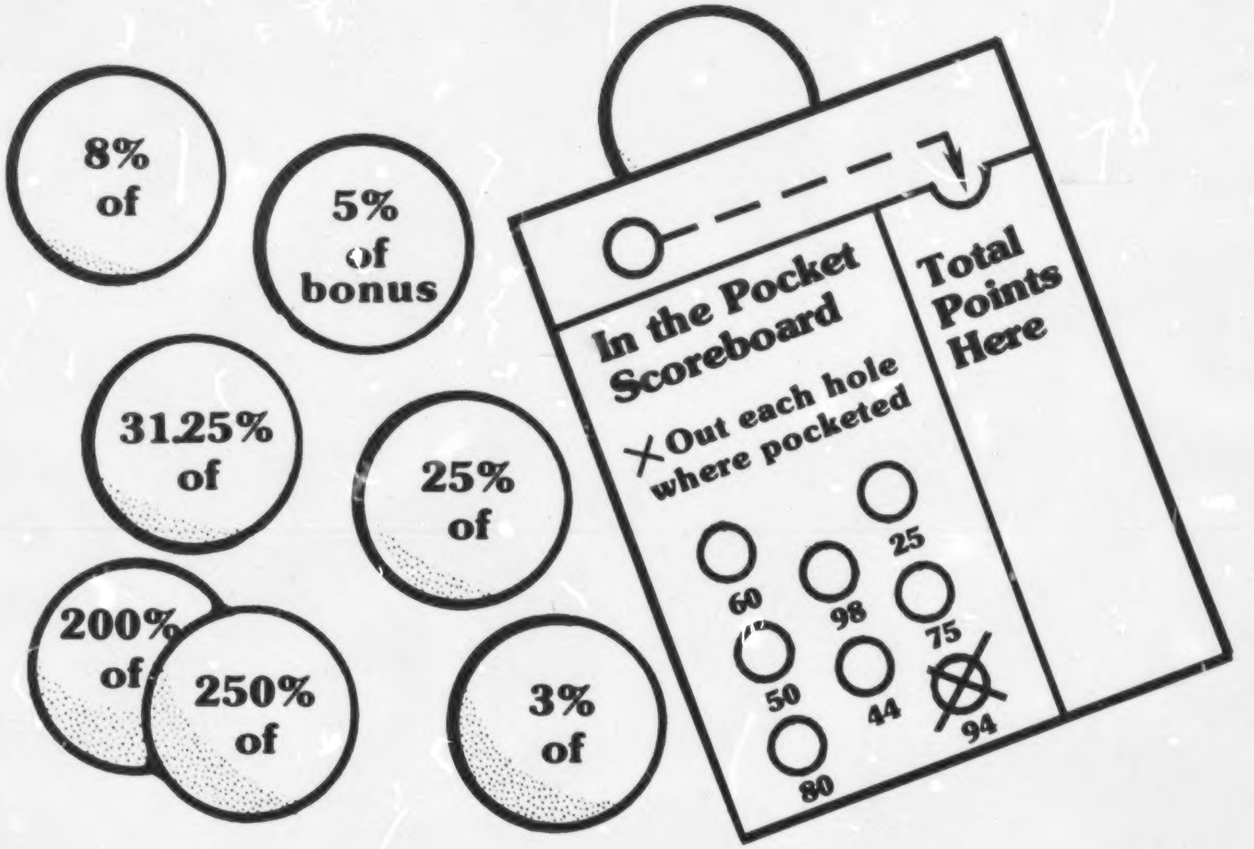
Skills #429, 432
Converting Fractions to Percents, Percents to Fractions

Objective:
The student will identify equivalent fractions and percents.

Directions:
"Triple Yolk" is an egg game to be played with two or more students. Each player gets an egg card (shown on page 93) and some colored circles to cover the numerals on his egg card. There are a dozen plastic eggs (shown on page 92), each containing three egg yolks. Each egg yolk has a number on it that is to be converted to an equivalent percent or fraction. A player rolls the dice and chooses one of the two numbers shown on the dice or a combination of the two. He then picks the egg which has that number. For example, the student who rolled the dice above, may pick #1 egg, #2 egg, or #3 egg. After choosing the plastic egg, he opens it and converts the numbers on the yolks to their approximate equivalency. If one of these conversions is on his egg card, he may cover it with his colored circle. The first student to cover his entire card is the "Triple Yolk Winner." As he progresses, have the student list his conversions on a sheet of paper. Get Crackin!!


12
11
1/4
26%
260%
9
10
1
2
3
4
eggs


1/3
1/16
25%
1.5%
1/5
1/4
5%
28%
1/8
1/2%
1/3
3/20
1/4
1/12
1.5%
25%


8% of
5% of bonus
31.25% of
25% of
200% of
250% of
3% of
In the Pocket Scoreboard
X Out each hole where pocketed
Total Points Here
25
60
98
75
50
44
94
80

"In the Pocket"...with Percents

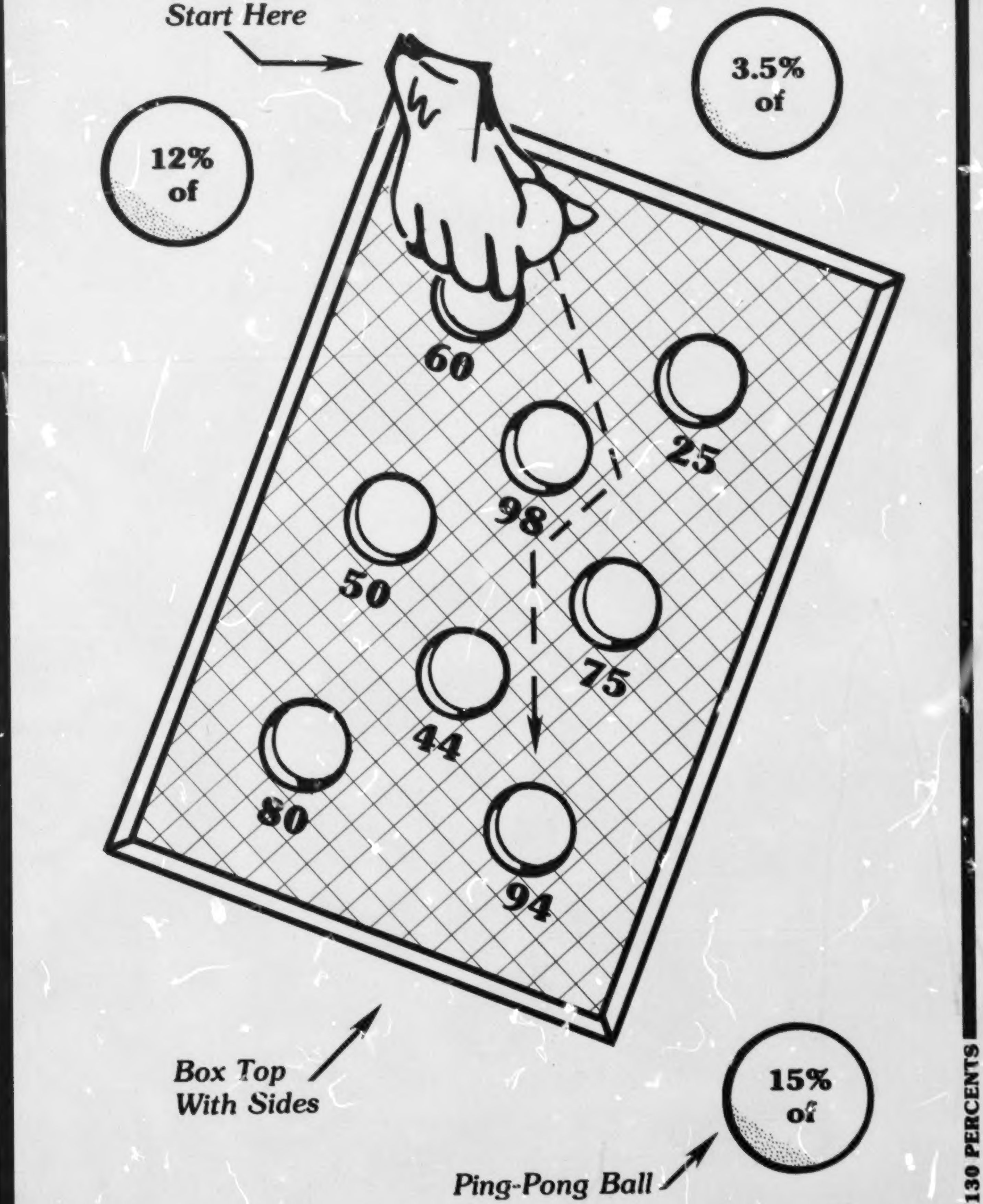
Skill #435
Percent Calculations

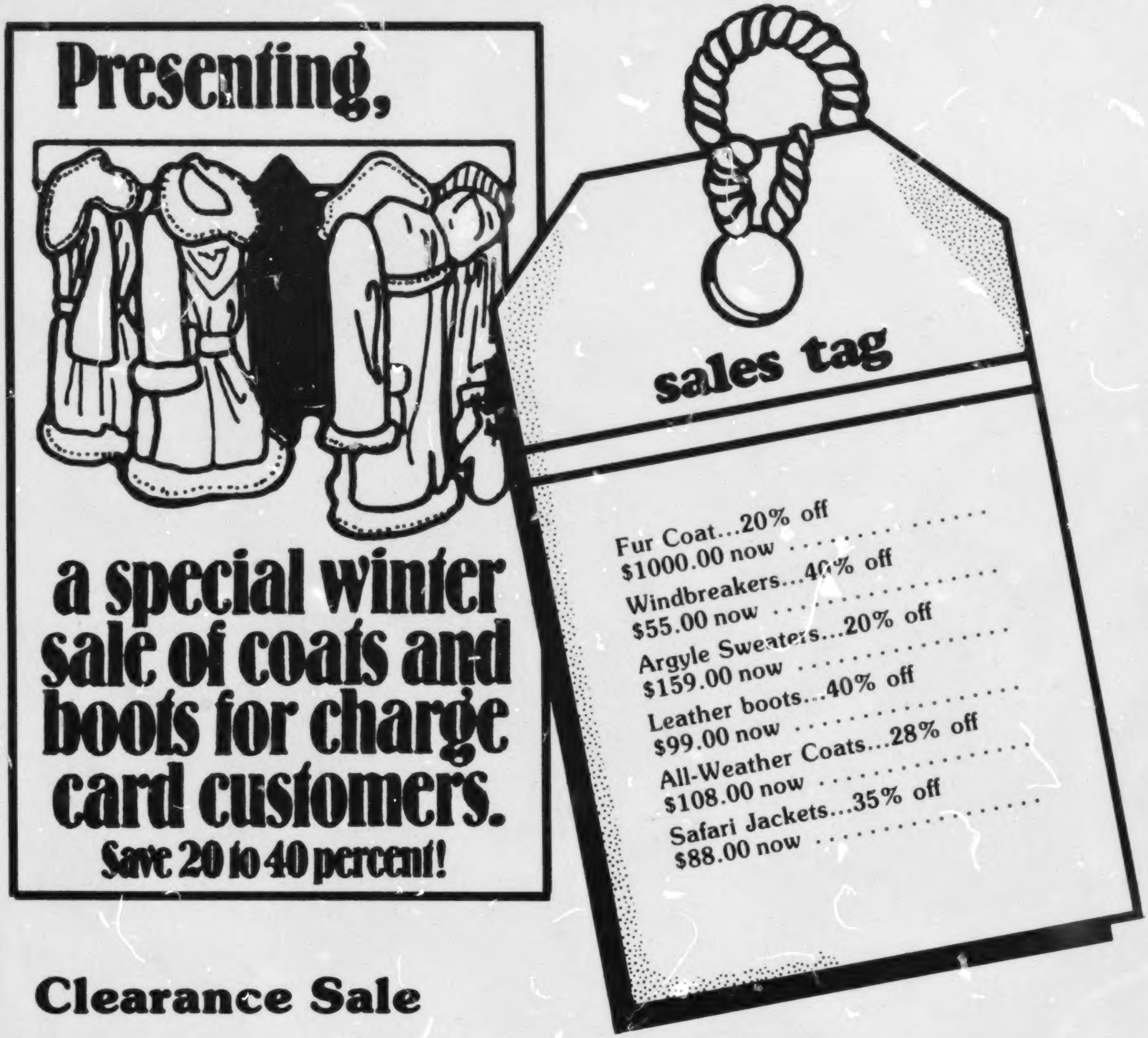
Objective:

The student will calculate percents.

Directions:

This activity should be played by two students. The object of the game is to get a Ping-Pong ball in every pocket and, therefore, earn points. There are eight holes and nineteen balls on the gameboard. The extra ball is the bonus ball. Each student is given a scorecard (shown above). In alternating turns, each student draws a Ping-Pong ball from a paper sack, places it on "start," picks up the gameboard, and rolls the ball into a hole. Each pocket must be hit only once and a duplicate returns the play to the opponent. A correct hit means that the player must solve the problem by using the figures written on the ball and on the hole; for example, 3% of 94. If the answer is correct, the player receives two points. The game is played until one player gets a ball in each pocket. The player with the most points is the winner.


Start Here
3.5% of
12% of
60
25
98
50
75
44
80
94
Box Top With Sides
15% of
Ping-Pong Ball


Presenting,
a special winter sale of coats and boots for charge card customers.
Save 20 to 40 percent!
sales tag

Fur Coat...20% off
$1000.00 now ....

Windbreakers...40% off
$55.00 now ....

Argyle Sweaters...20% off
$159.00 now ....

Leather boots...40% off
$99.00 now ....

All-Weather Coats...28% off
$108.00 now ....

Safari Jackets...35% off
$88.00 now ....

Clearance Sale

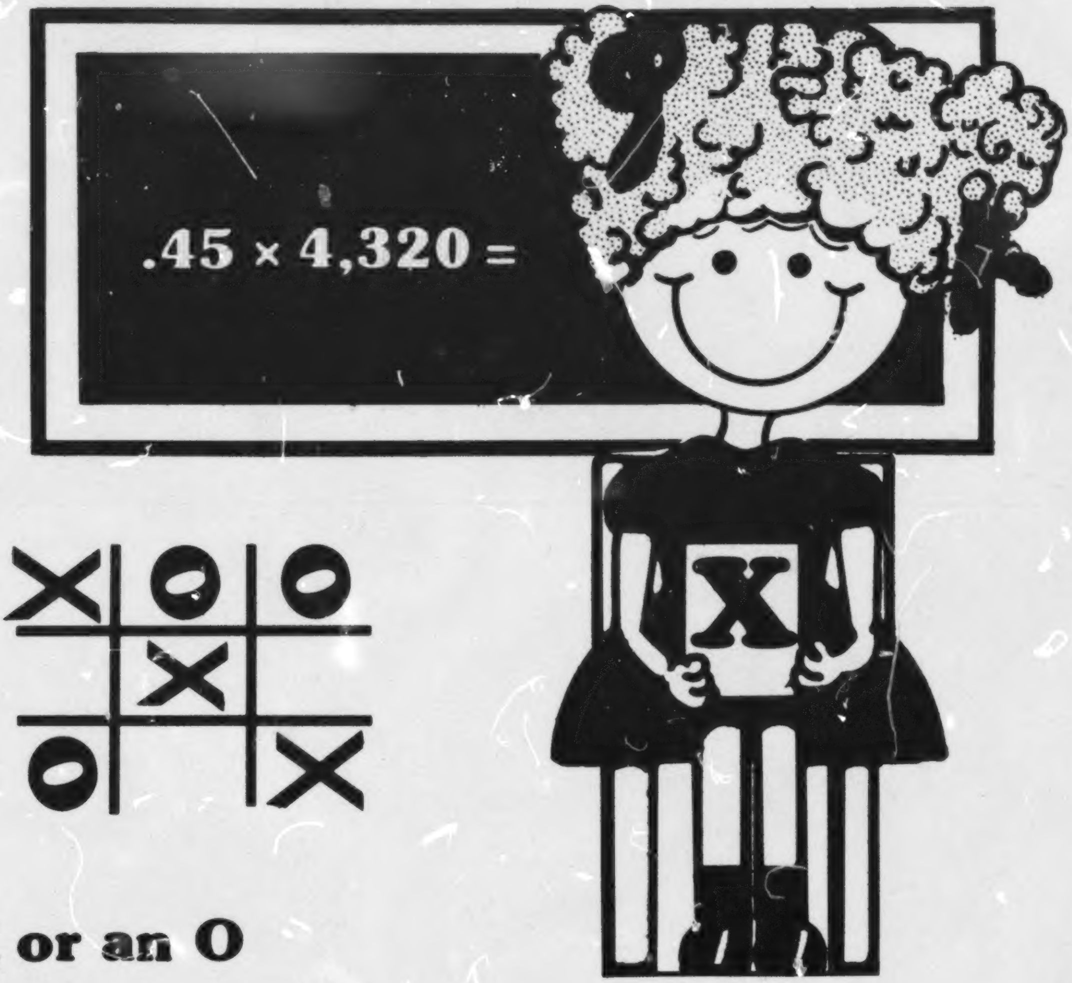
Skill #435
Percent Calculations

Objective:
The student will calculate percents.

Directions:
Have the student calculate the sales price on the sales tag shown above.

Follow-up Activities:

1. Provide each student with a page from a catalog. Have the student figure each item at 25% off.
2. Have the student determine what percent of $500.00 would be needed to purchase any three items in the above activity.



An X or an O

Skill #444
Percent Word Problems

Objective:
The student will identify a number sentence for solving the problem.

Directions:
Arrange nine chairs in "Tic Tac Toe" rows. Divide the students into team "X" and team "O." Provide the students with word problems concerning percents. Examples may be found in the next activity. The first player from team "X" reads a word problem, identifies a number sentence for solving the problem and writes it on the chalkboard. If correct, he takes an "X" card and sits with it in the chair of his choice. The game is played until one team gets "Tic Tac Toe."

Follow-up Activities:
1. Have the students play the game in the same manner, computing the number sentences from the above activity to place their "X's" and "O's."
2. Give the students a number sentence involving percents and have each one write a word problem for it.

Sky High Prices

Skill #444
Percent Word Problems

Objective:

The student will identify an arithmetic procedure for solving a problem.

Directions:

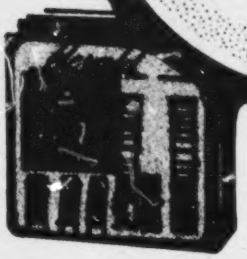
Have the student read the problems on pages 98 and 99, give a number sentence for solving the problems and compute them.

Follow-up Activities:

1. At the current rate of inflation, have the student figure the cost increase of three products.
2. Have the student contact a local drugstore to determine the senior citizen discount and figure the cost savings on any three pharmaceutical items.

PRICE TAG

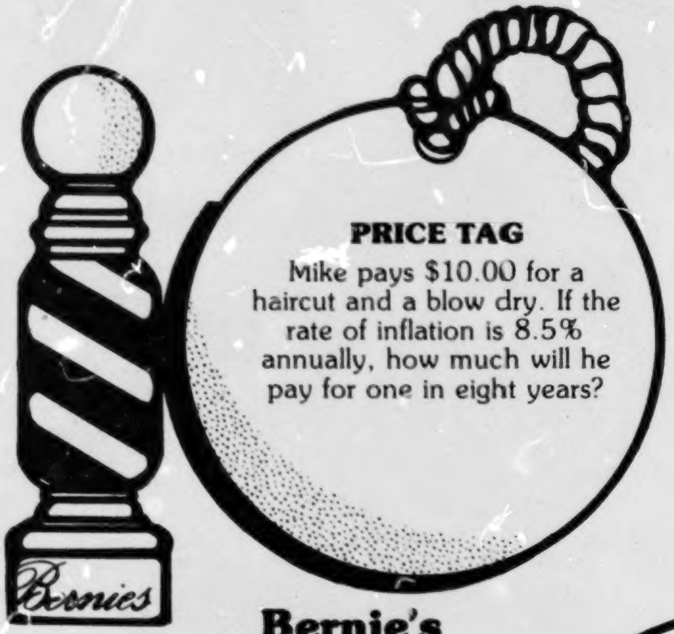
An ad in the Herald reads, "Save 25% or $115.00 on a new stereo." What is the sale price of the stereo?



PRICE TAG

Mary buys prescriptions at two different drug stores. Mary got the flu and had to get a prescription filled for antibiotics. One drug store gave her a price of $13.95.
The second drugstore gave her a price of $15.98 plus 13% discount for being a senior citizen. Which prescription is less expensive?

Paul bought a used car for $800.00. He spent $88.00 fixing it. He advertised the car to sell for 60% more than he invested in it. The car didn't sell so he marked the price down 20%. How much is the car selling for now?

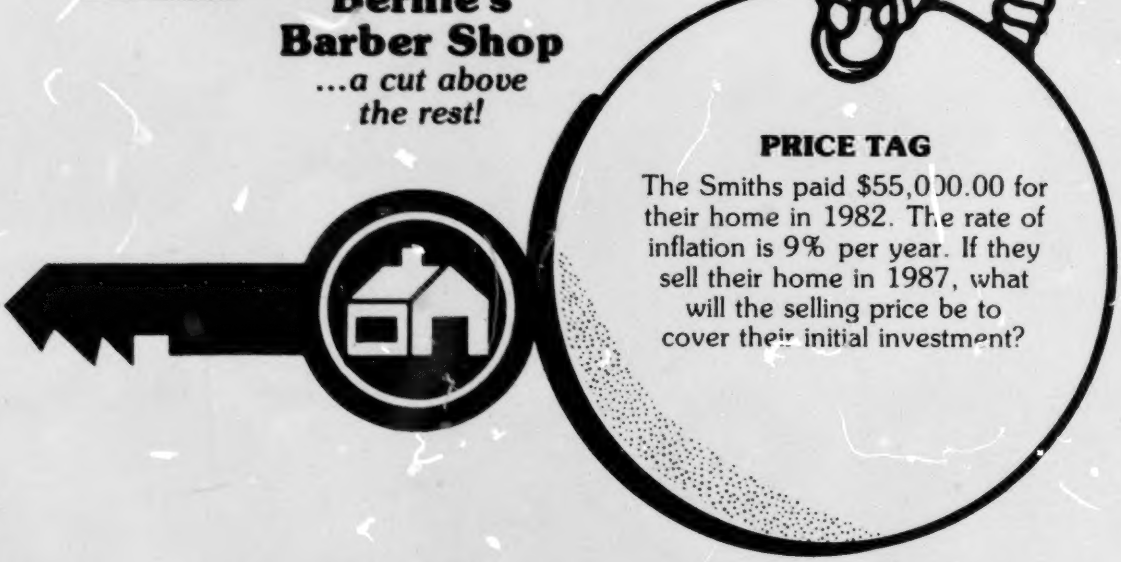


PRICE TAG

Mike pays $10.00 for a haircut and a blow dry. If the rate of inflation is 8.5% annually, how much will he pay for one in eight years?

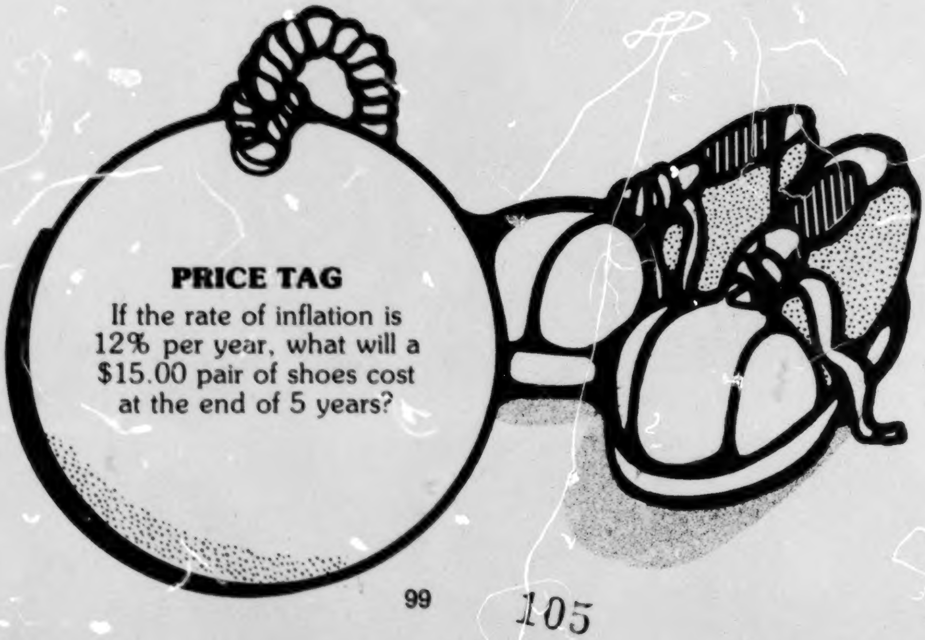
Bernie's Barber Shop

...a cut above the rest!



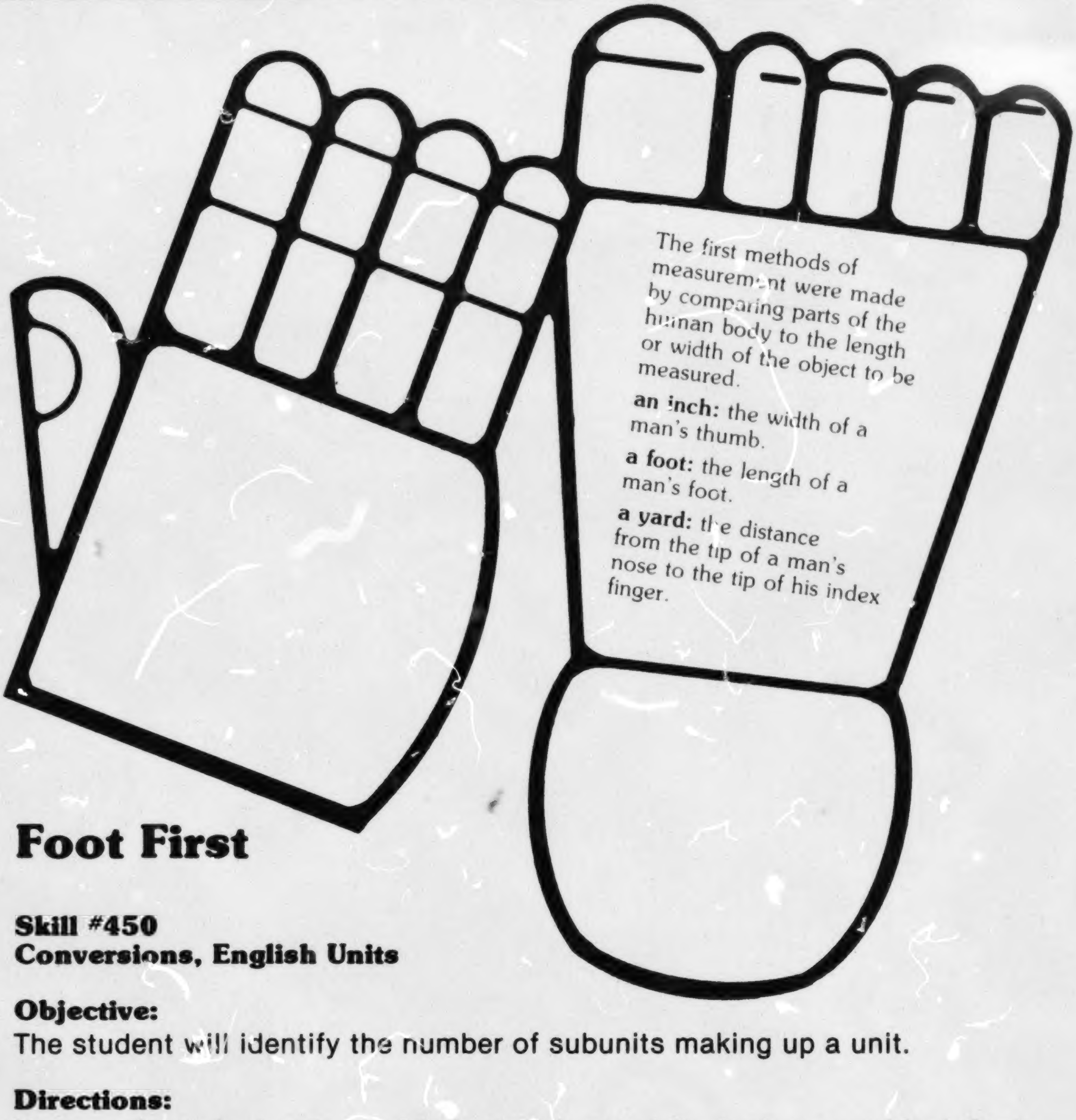
PRICE TAG

The Smiths paid $55,000.00 for their home in 1982. The rate of inflation is 9% per year. If they sell their home in 1987, what will the selling price be to cover their initial investment?



PRICE TAG

If the rate of inflation is 12% per year, what will a $15.00 pair of shoes cost at the end of 5 years?



The first methods of measurement were made by comparing parts of the human body to the length or width of the object to be measured.

an inch: the width of a man's thumb.

a foot: the length of a man's foot.

a yard: the distance from the tip of a man's nose to the tip of his index finger.

Foot First

Skill #450
Conversions, English Units

Objective:
The student will identify the number of subunits making up a unit.

Directions:
Have each student measure his foot and record the inches on a blank foot-shape. Have the class determine whose foot-shape comes closest to an actual foot (12 inches).

Follow-up Activities:

1. Have each student measure his hand, take the average length and develop a new standard of measurement; for example, seven inches equals one hand.
2. Using the hand measurement from the first follow-up, have each student guess the length in hands of different objects in the room and then check himself by measuring those objects.

Do You Measure Up.... Metrically

Skill #456
Conversions, Metric Units

Objective:

The student will identify the number of subunits making up a unit.

Directions:

Have the students work together as a group and find their metric heights to the nearest centimeter.

Follow-up Activities:

1. After doing the above activity, have the students estimate the measurements of different parts of their bodies (waist, neck, head, wrist, leg, ankle) record them, and then measure to see who has the closest estimation.
2. Have the students convert their measurements to English units to the nearest inch and foot.

House Plans

Skill #465
Scaling, Maps, and Drawings

Objective:
The student will identify an appropriate scale for making a drawing of an object.

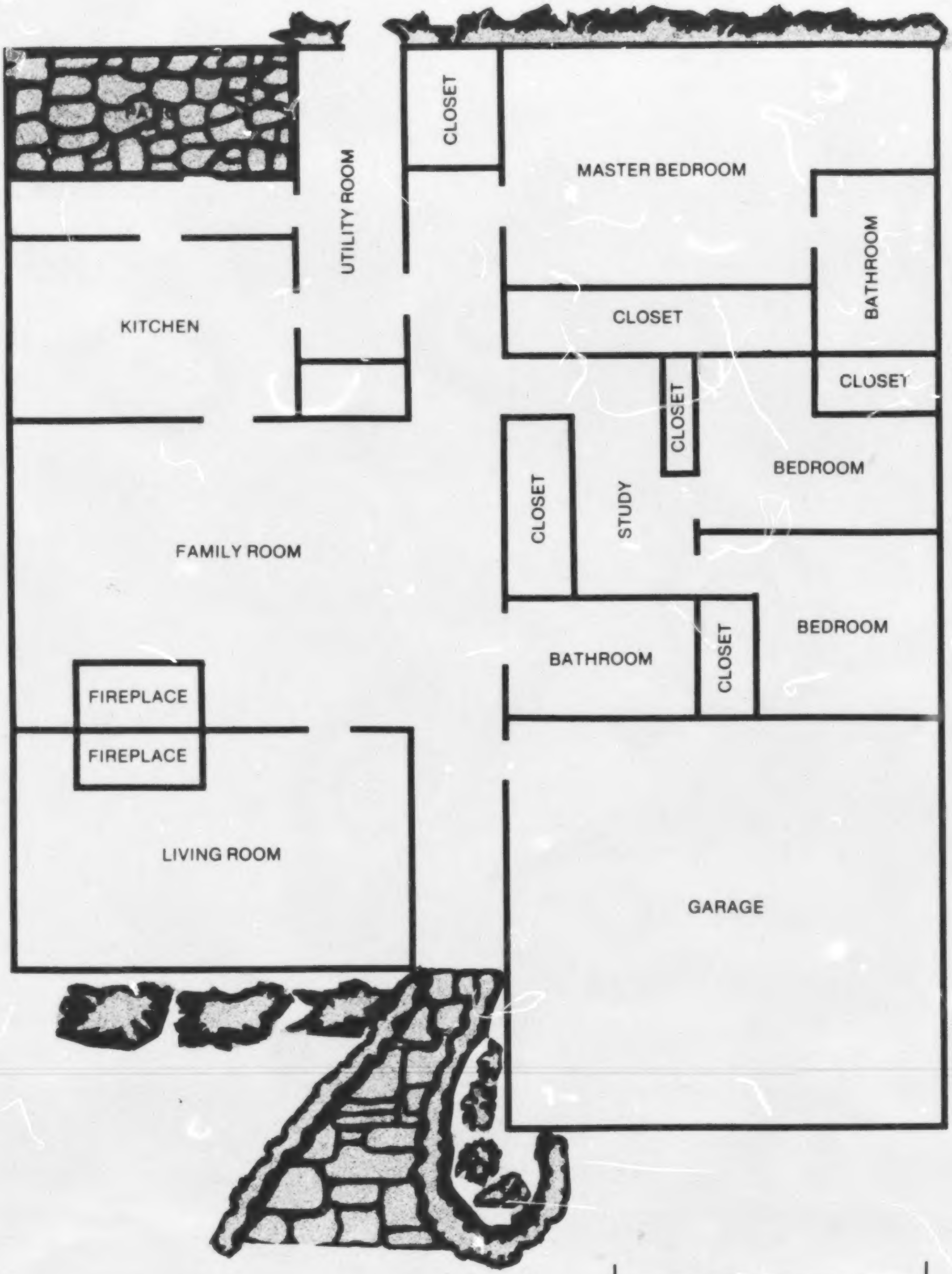
Directions:
Have the student reproduce the scaled drawing (on page 103) on a large sheet of paper, using the scale 2 inches = 1 foot.

Follow-up Activities:

1. Using the scale 1/8″ = 1 foot, have the student answer the following questions:
   1.) How many cars will the garage have room for?
   2.) Which is the largest room? What is its length? What is its depth?
   3.) Which closet could be used as a walk-in closet?
   4.) How much larger is the master bedroom than the other two bedrooms?
   5.) How long is the hall?
2. Have the student design the floor plan of his dream house by using the scale ¼″ = 1 foot.

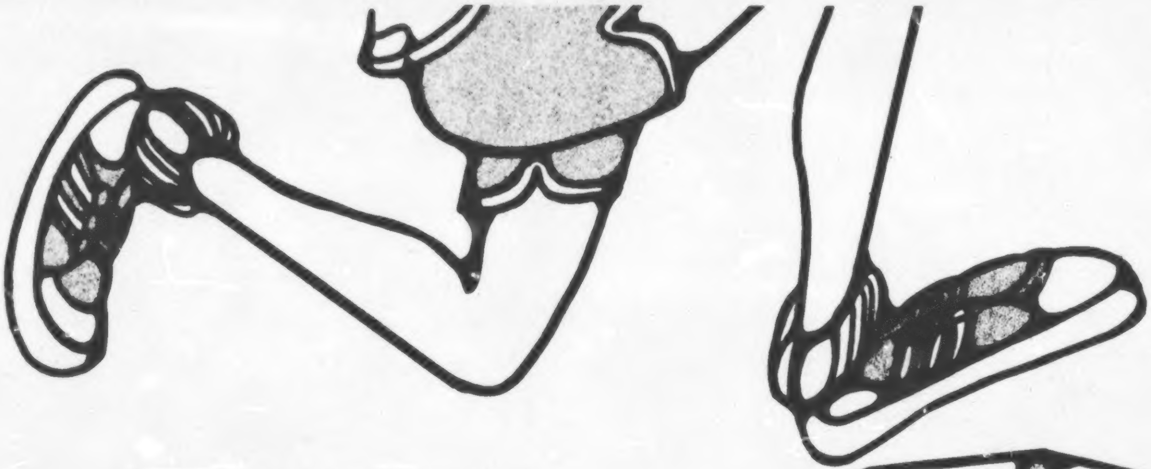
108

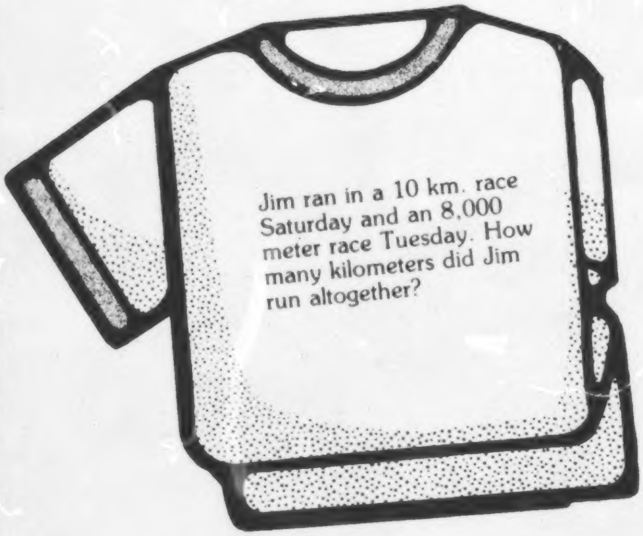
House Plans Scaled Drawing


CLOSET
MASTER BEDROOM
UTILITY ROOM
BATHROOM
CLOSET
KITCHEN
CLOSET
CLOSET
BEDROOM
CLOSET
STUDY
FAMILY ROOM
BATHROOM
CLOSET
BEDROOM
FIREPLACE
FIREPLACE
LIVING ROOM
GARAGE

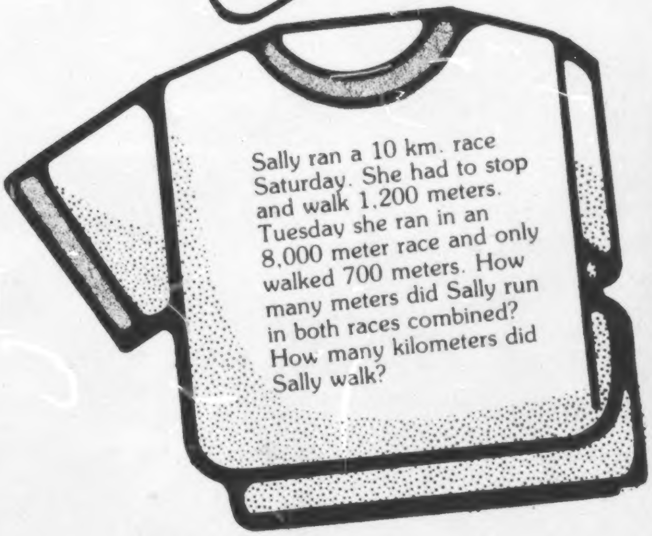
2 INCHES = 1 FOOT

109





Jim ran in a 10 km. race Saturday and an 8,000 meter race Tuesday. How many kilometers did Jim run altogether?



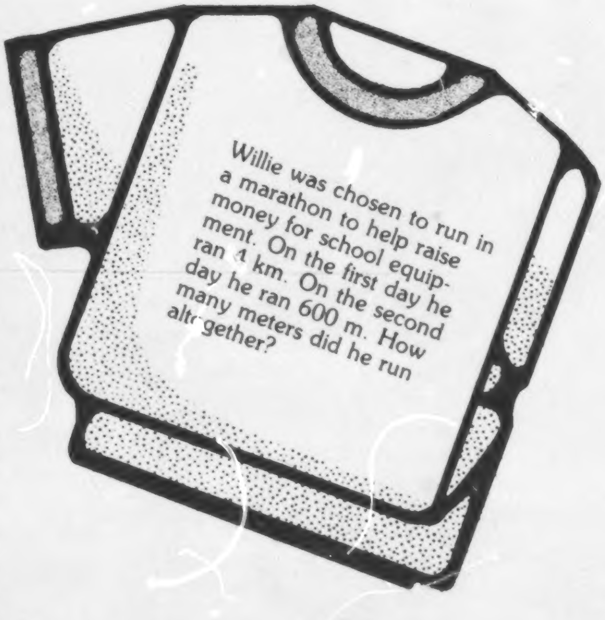
Sally ran a 10 km. race Saturday. She had to stop and walk 1,200 meters. Tuesday she ran in an 8,000 meter race and only walked 700 meters. How many meters did Sally run in both races combined? How many kilometers did Sally walk?

Meter Marathon

Skill #474
Measurement Word Problems

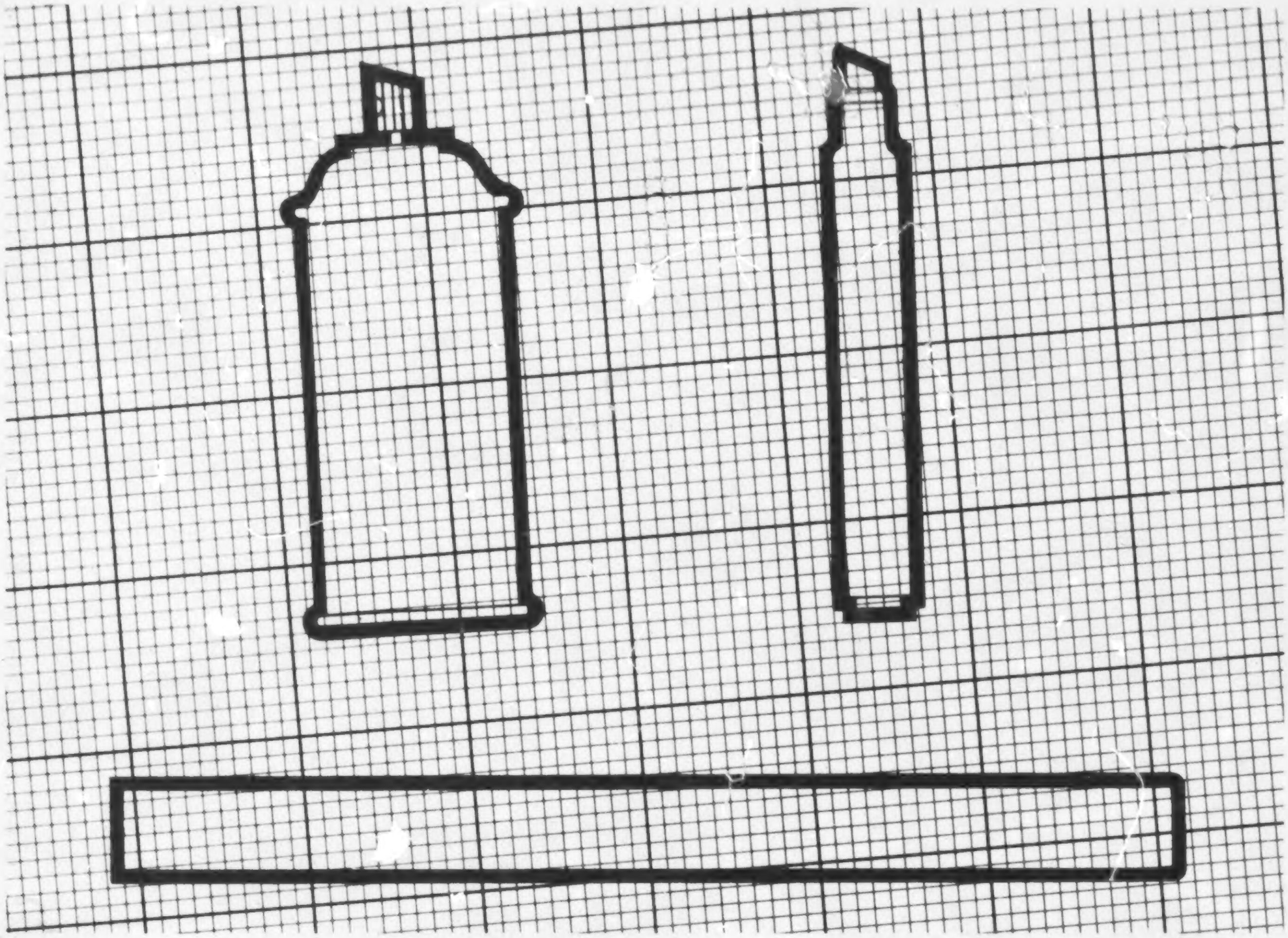
Objective:
The student will compute sums or differences to solve word problems.

Directions:
Have the student read the problems above and compute the sums or differences to solve the word problems.



Willie was chosen to run in a marathon to help raise money for school equipment. On the first day he ran 4 km. On the second day he ran 600 m. How many meters did he run altogether?

Follow-up Activities:
1. Provide the student with a newspaper or magazine account of a race and have him write word problems, using the information given.
2. Have the student route a 10 km. race on a city map.



Getting Squared Away

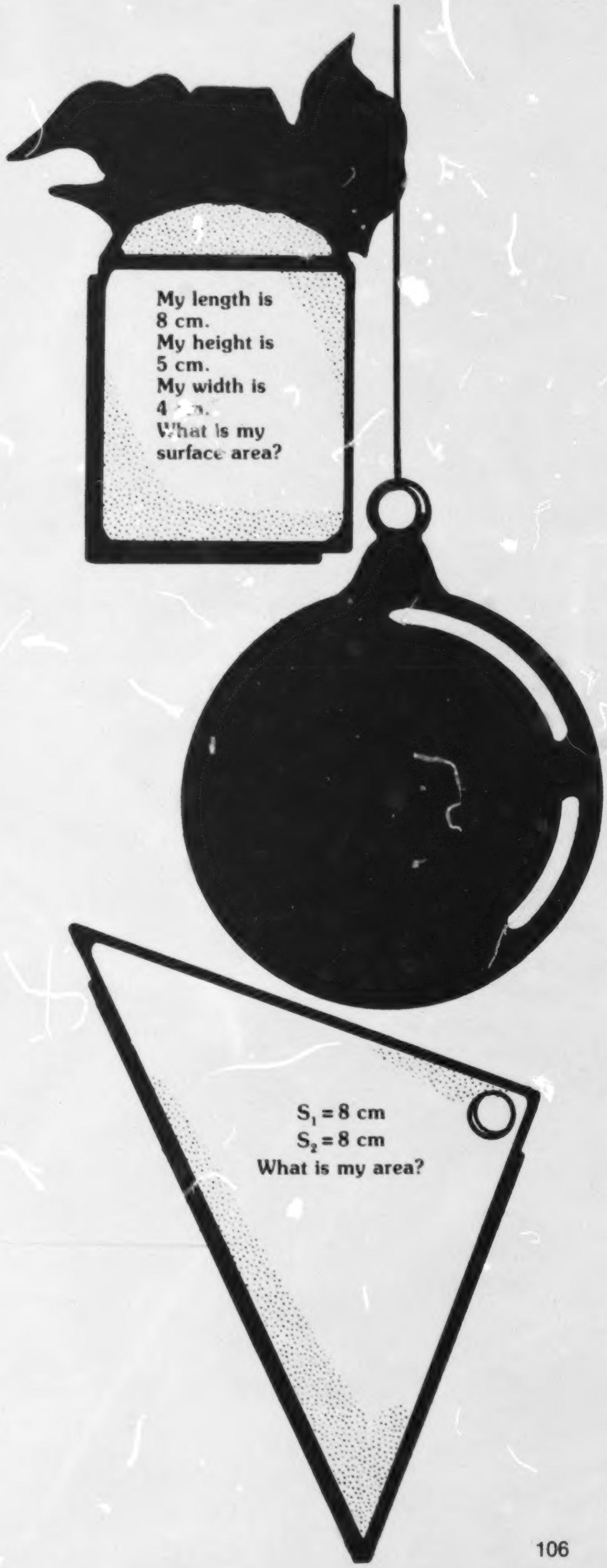
Skill #477
Measuring Area by Tiling Grids

Objective:
The student will identify the area of a figure by using a grid.

Directions:
Have the student count the squares inside the outlines as shown above and record their areas. Parts of squares can be put together to make whole squares.

Follow-up Activities:

1. Have the student make a one-inch square from paper and use it to find the area of a desk top, a book, a chalkboard, etc.
2. Have the student use an overhead transparency of graph paper to find the area of an object in the room. Have the student place the transparent grid over the object, outline it and determine the area.


My length is 8 cm.
My height is 5 cm.
My width is 4 cm.
What is my surface area?
S_1 = 8 cm
S_2 = 8 cm
What is my area?

Tree Trimmings

**Skills #486, 492, 504
Computing the Area of a Right Triangle, a Circle and the Surface of a Rectangular Solid**

Objective:

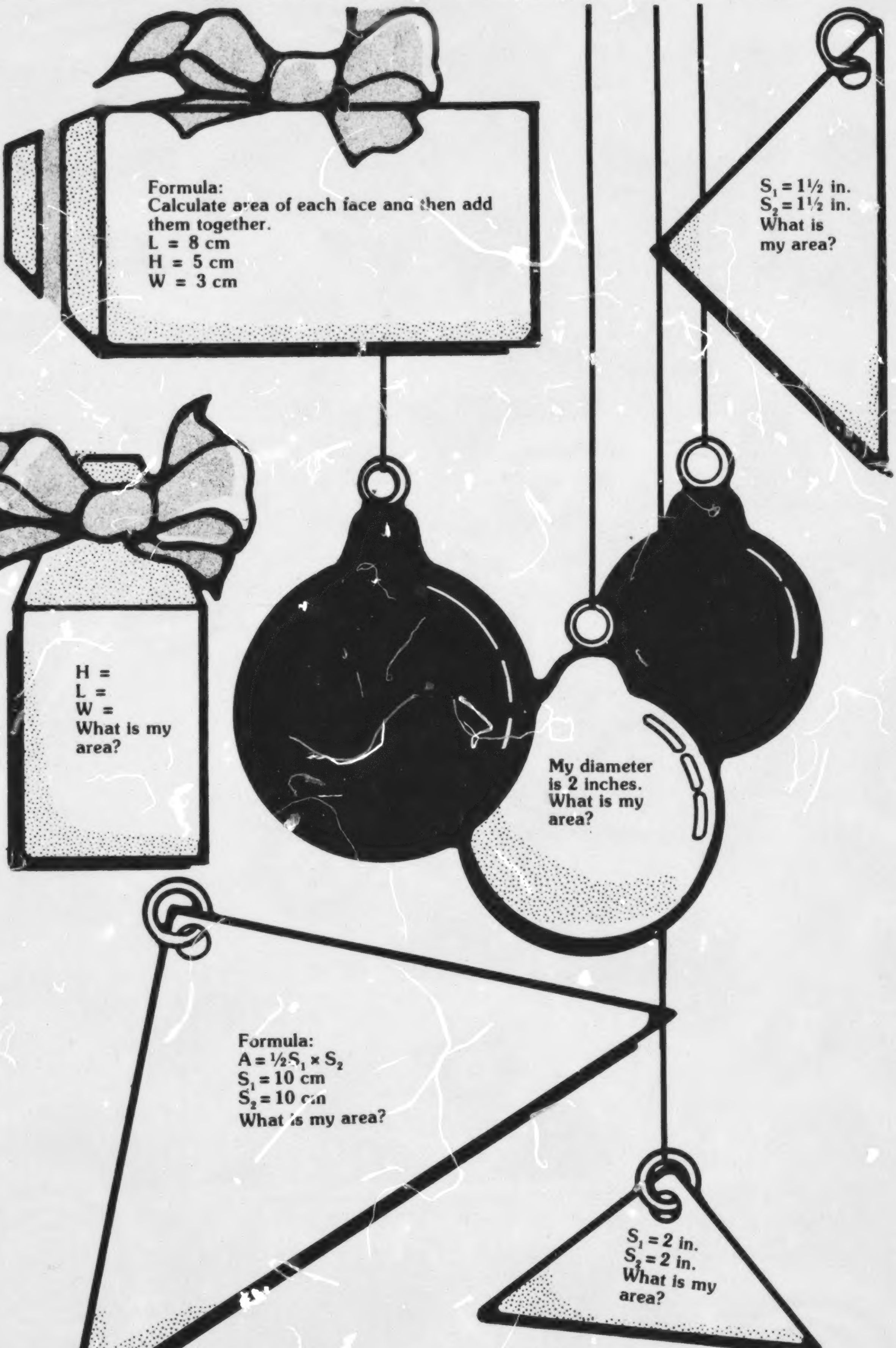
The student will compute the area of a right triangle, a circle and the surface of a rectangular solid.

Directions:

"Tree Trimmings" is a learning center using a Christmas tree (shown on page 108). Given the formulas, the student computes the areas of the circles on the tree, the right triangle ornaments, and the surface of the packages.

Follow-up Activities:

1. Have the student, using at least one geometric shape incorporated into the design, create an original Christmas card.
2. Give the student dimensions of a small rectangular solid and have him compute the surface. Then, have the student cut the shape out of styrofoam and have him decorate it for use as a Christmas ornament.



Formula:
Calculate area of each face and then add them together.
L = 8 cm
H = 5 cm
W = 3 cm

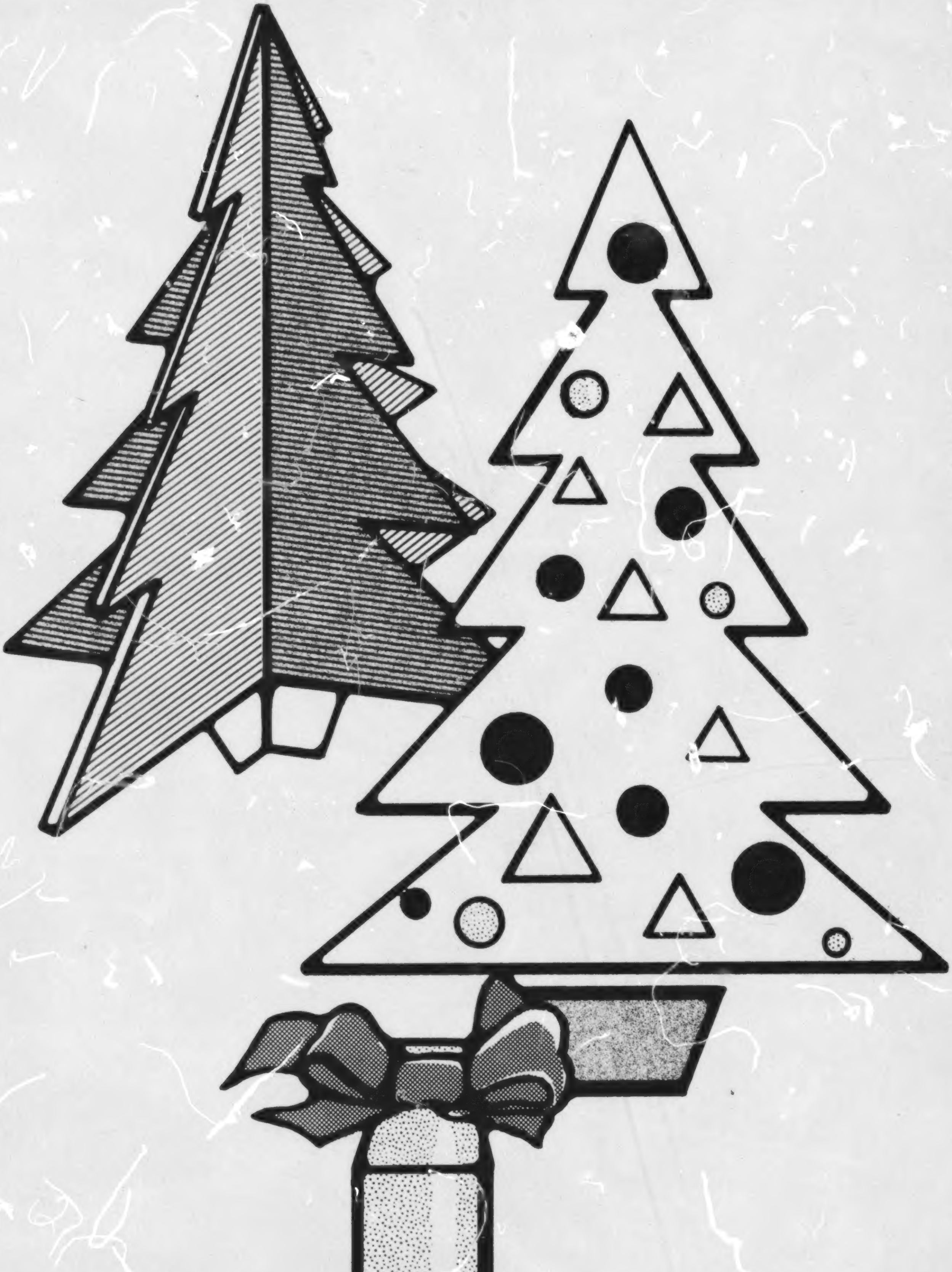
$S_1 = 1\frac{1}{2}$ in.
$S_2 = 1\frac{1}{2}$ in.
What is my area?

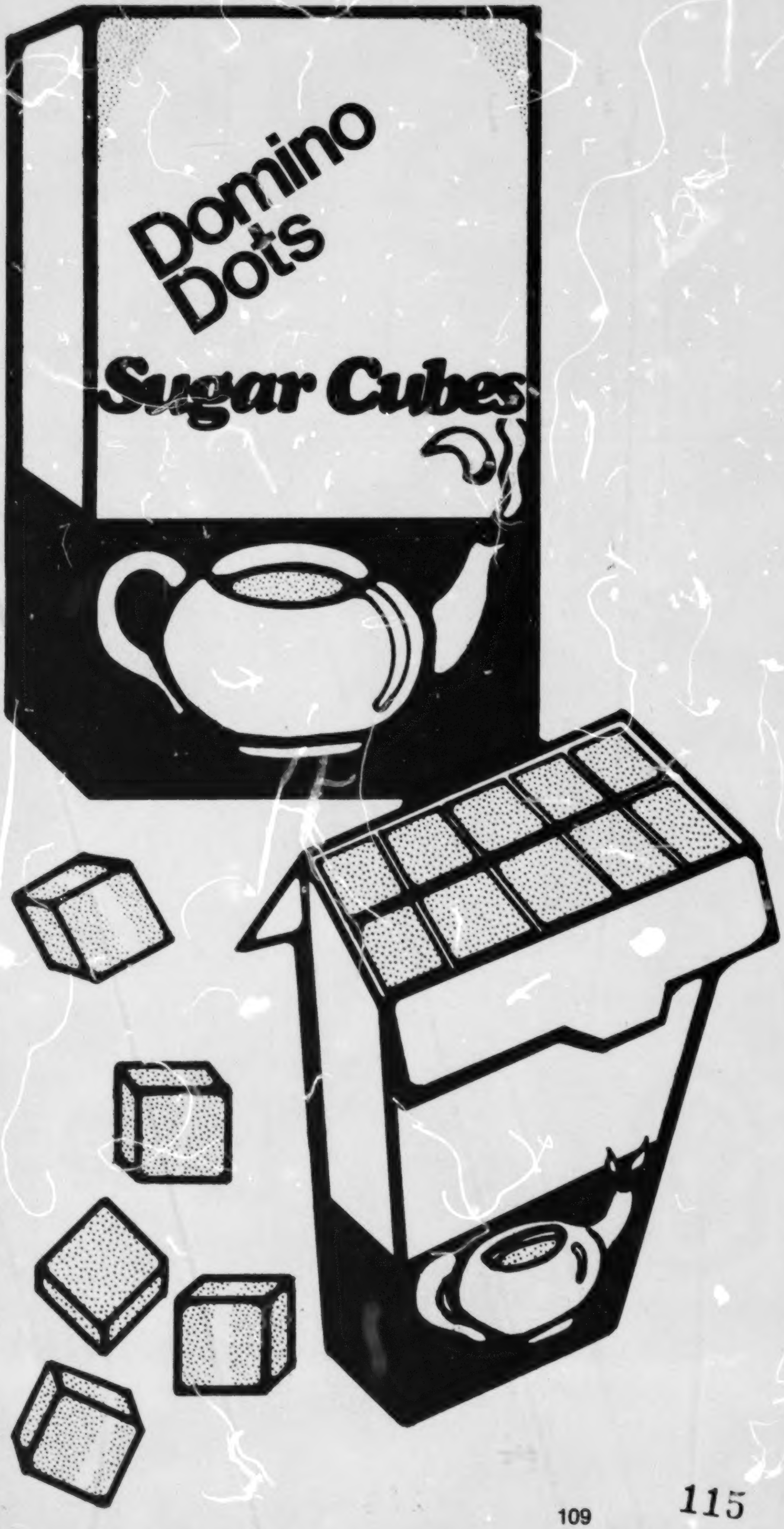
H =
L =
W =
What is my area?

My diameter is 2 inches. What is my area?

Formula:
$A = \frac{1}{2}S_1 \times S_2$
$S_1 = 10$ cm
$S_2 = 10$ cm
What is my area?

$S_1 = 2$ in.
$S_2 = 2$ in.
What is my area?





One Lump or Two

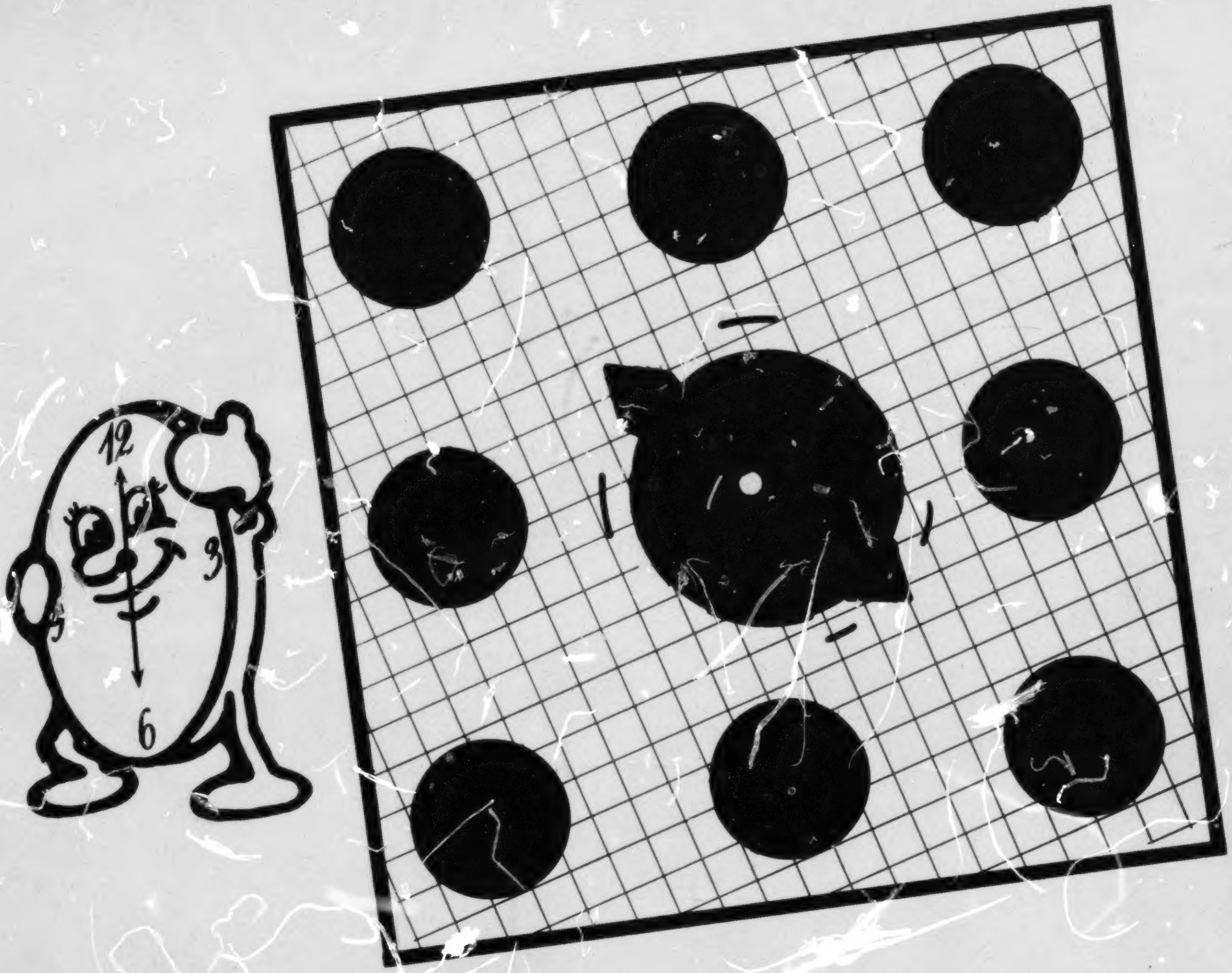
Skill #513
Measurement of Volume

Objective:
The student will identify the number of units in a box.

Directions:
Have the student figure out how many ½″ sugar cubes are in the box. The box measures 5½″x2½″x1″.

Follow-up Activities:

1. Have the student, using the following formula, find the volume of the box:
   V = LxWxH.
2. Have the student use the water displacement method to measure the volume of an irregularly shaped object, such as a rock. Hint: Each milliliter of water has a volume of one cubic centimeter.



Beat the Clock

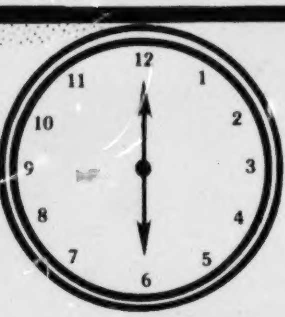
Skill #519
Units and Subunits of Clock Time

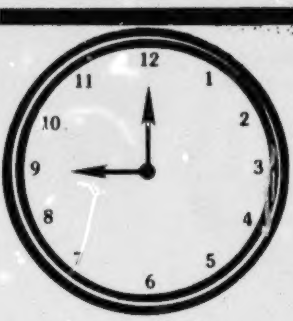
Objective:
The student will identify an equivalent number of subunits of a given unit and an equivalent unit of time.

Directions:
In alternating turns, each student spins the arrow and quickly determines if the arrow points to two equivalent units of time before his partner does. Whoever gives the correct answer first scores five points.

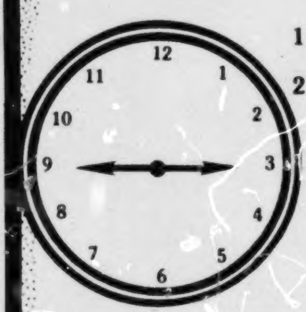
Follow-up Activities:
1. Give the student the gameboard and have him give, at least, one equivalent unit of time for each circle.
2. Have the student relate what might take place in the classroom during each unit of time represented on the gameboard.

1. "Good Times"
2. "That's Incredible"



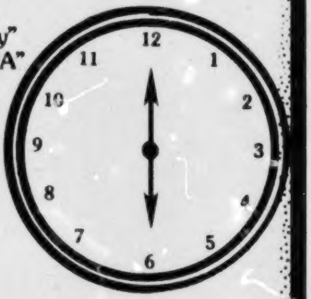


1. "Laverne & Shirley"
2. "Dukes of Hazard"



1. "Square Pegs"
2. "Happy Days"

1. "Walt Disney"
2. "NOVA"



Time To Tune In

Skill #522
Telling Time

Objective:

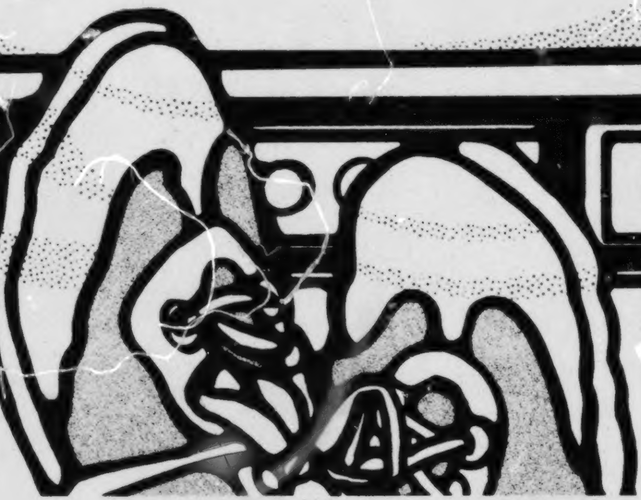
The student will identify the clock representation of given times.

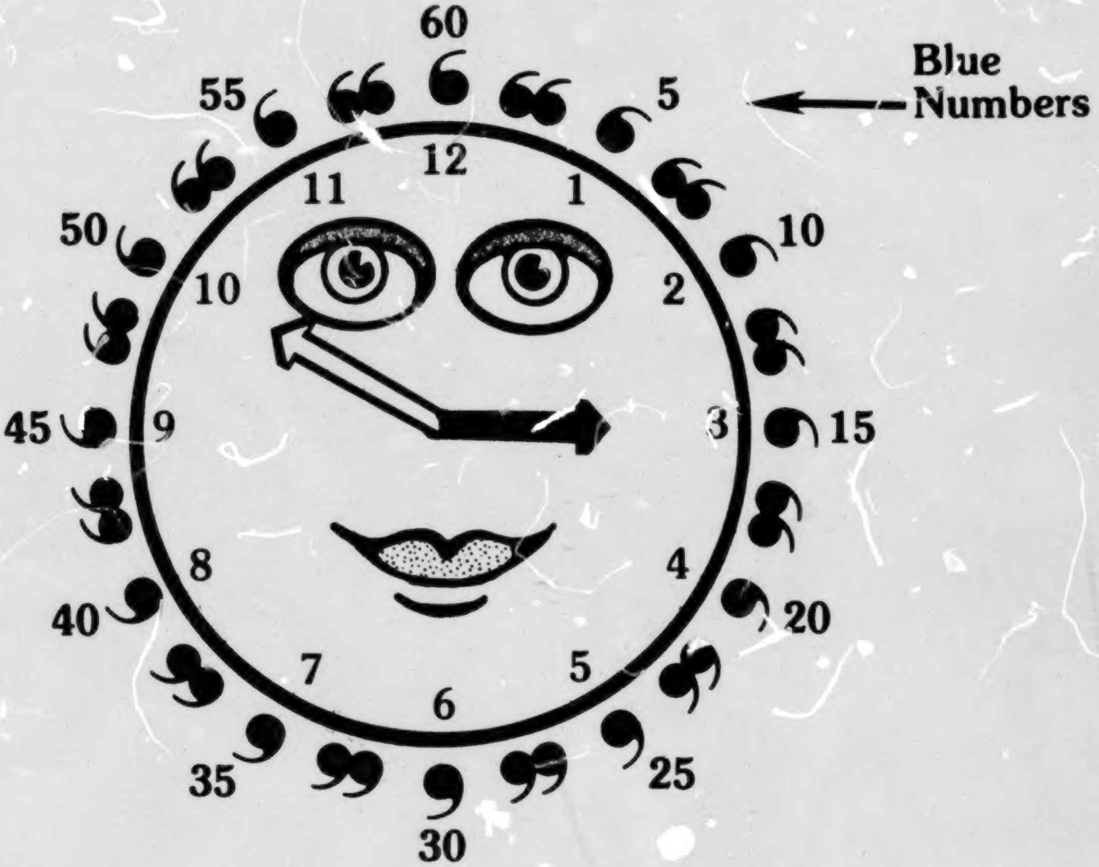
Directions:

The student is given clocks with movable hands and a copy of *T.V. Guide.* Have him look up the television shows listed above and move the hands of the clocks to show the tune-in times.

Follow-up Activities:

1. Have the student plan a schedule for his school day. Have him draw a clock to show the time for each activity.
2. Provide the student with a cardboard clock face with movable hands. As times are called out by the instructor, each student shows the specified time on his clock.





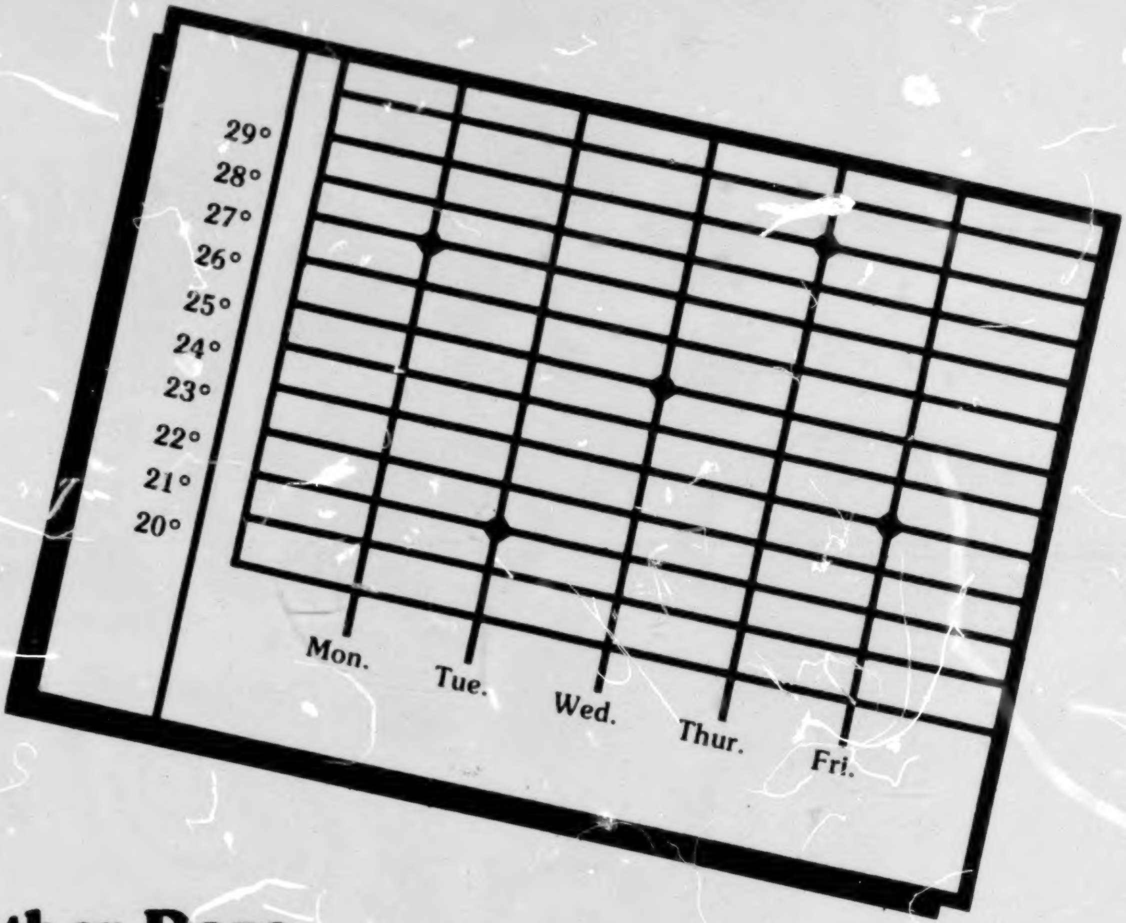
Sun Time

Skill #522
Telling Time

Objective:
The student will identify the time represented on the clock.

Directions:
To help students learn to tell time, make a sun clock. Show the minutes in blue and the hours in red. Make a red short hand for the hours and a blue long hand for the minutes. When writing the time, have the students use the same color coding.

Follow-up Activities:
1. Make a permanent bulletin board by enlarging the clock above on the opaque projector and reproducing it on a window shade. Movable cardboard hands can be attached with a brad.
2. Construct a sundial outside to reinforce the concept of time as represented on the face of a clock.



Weather Daze

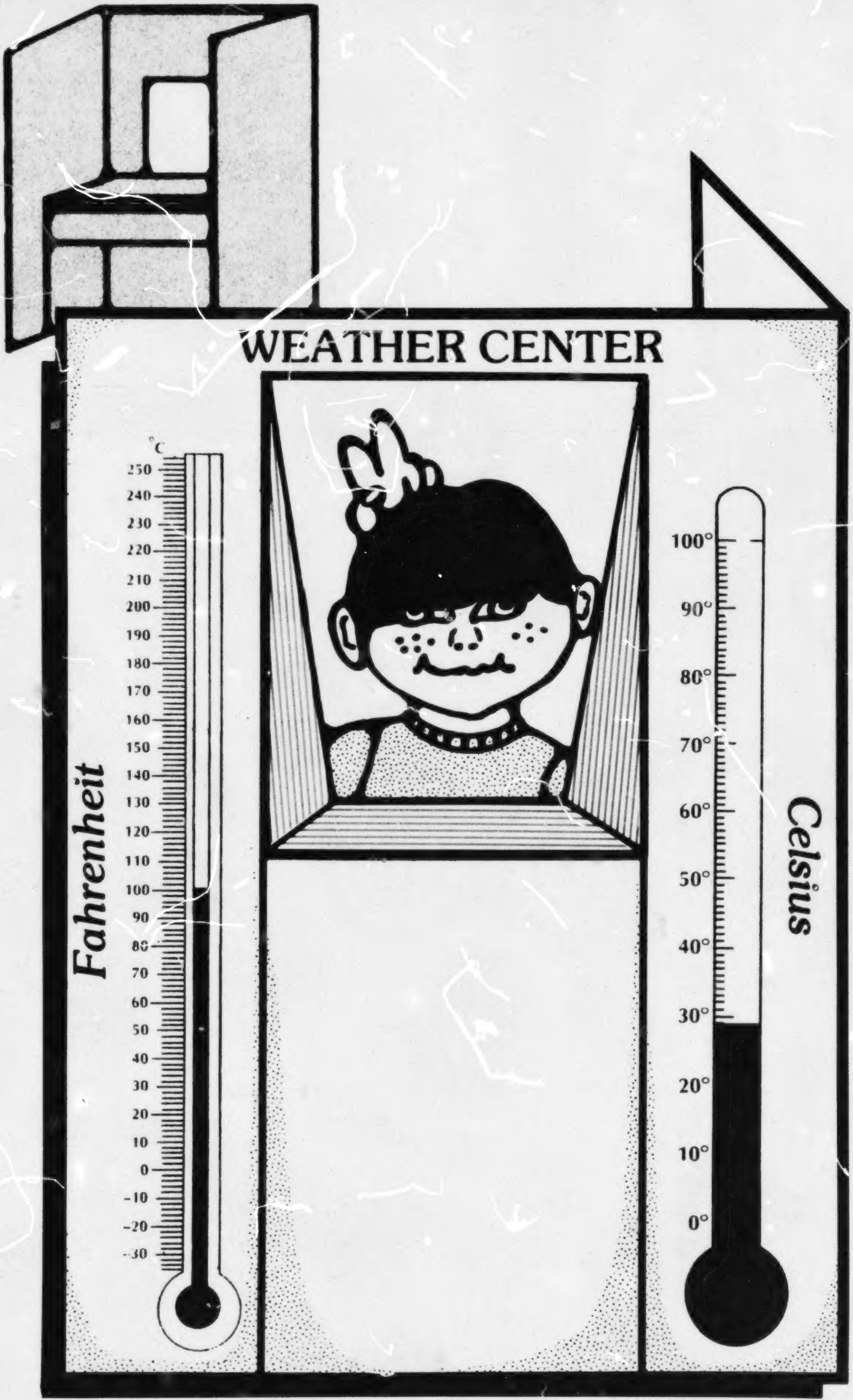
Skills #525, 528
Reading a Fahrenheit and Celsius Temperature Gauge

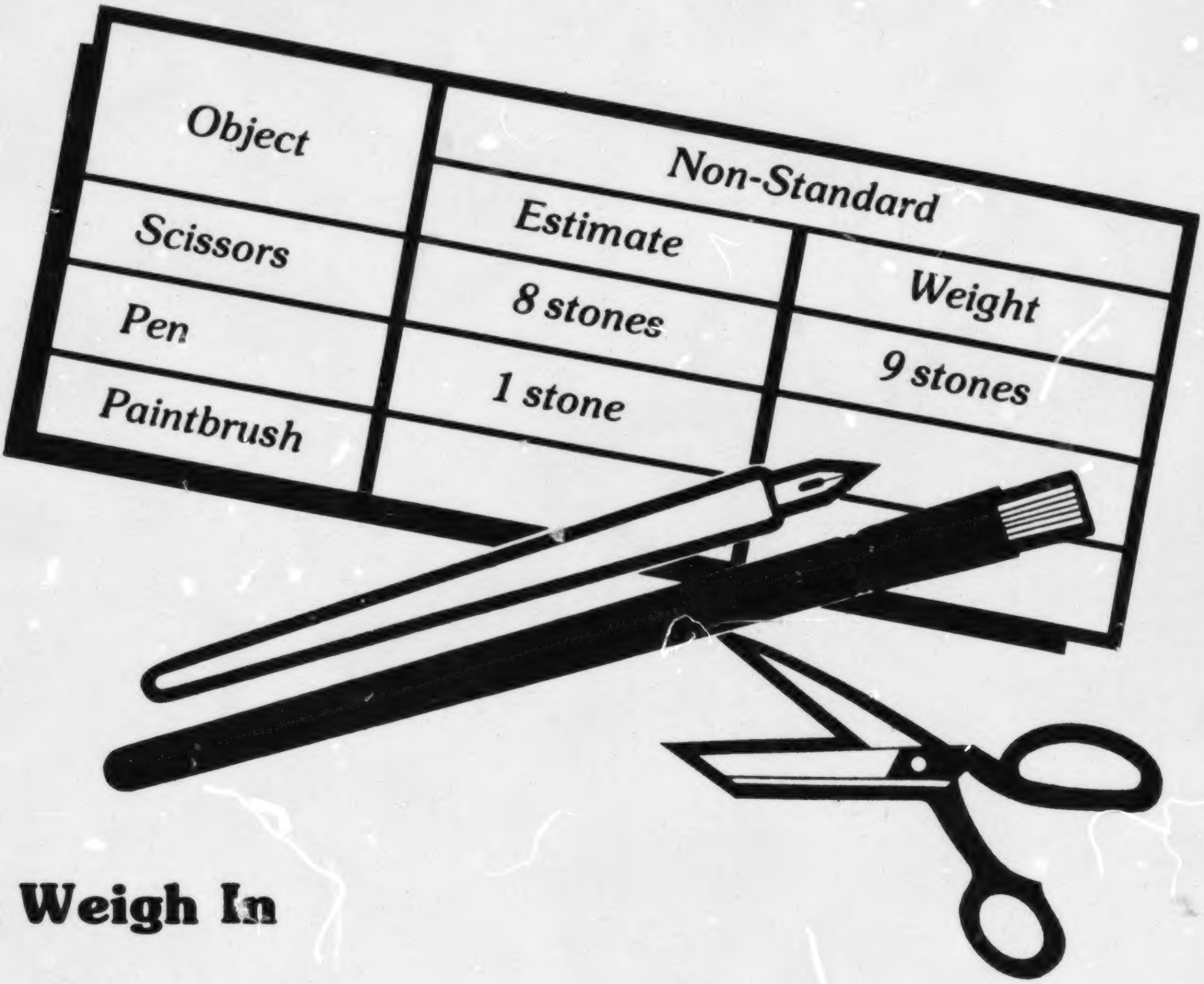
Objective:
The student will identify Fahrenheit and Celsius temperature gauges representing given temperatures.

Directions:
Hang a Celsius and a Fahrenheit thermometer outside the classroom. Pick one student to be the weather person for each week. He must read the thermometers outside and draw marks of his readings on the weather center's temperature gauges (shown on page 114). Have him give an oral report on his daily findings.

Follow-up Activities:

1. Have the student keep a graph (shown above) of the daily temperature readings. At the end of the week, he must give the weekly high, the low and the average temperature.
2. Have the student watch the evening weather news and compare the forecast to the actual weather the next day.


WEATHER CENTER
°C
250
240
230
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
Fahrenheit
100°
90°
80°
70°
60°
50°
40°
30°
20°
10°
0°
Celsius



Object	Non-Standard	
	Estimate	Weight
Scissors	8 stones	9 stones
Pen	1 stone	
Paintbrush		

A Weigh In

Skill #531
Measuring Weight

Objective:

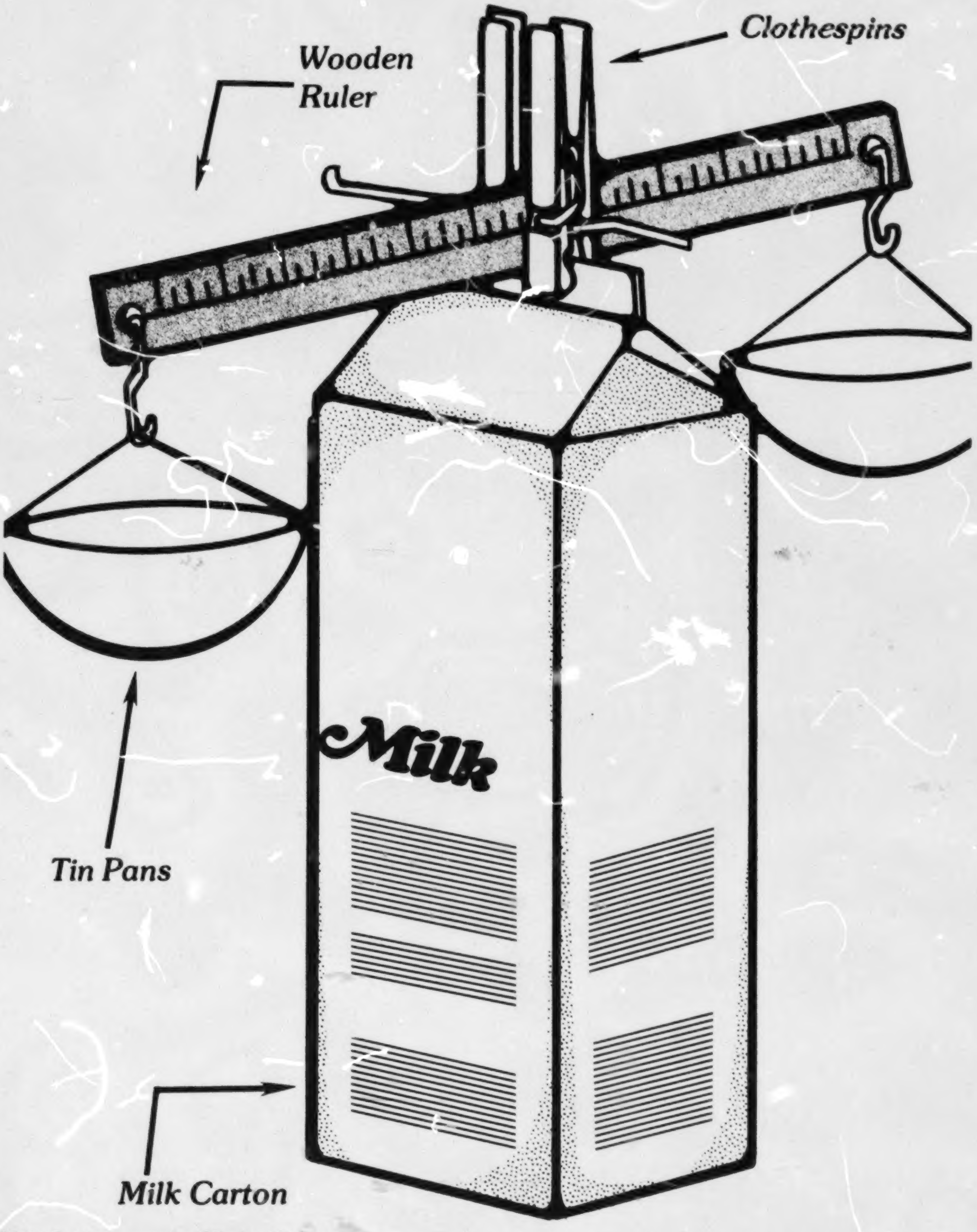
The student will identify the weight (mass) of the object in the arbitrary unit of weight.

Directions:

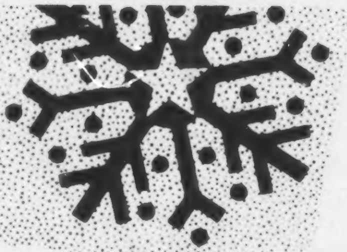
Construct a balance (shown on page 116) with an empty milk carton, clothespins, paperclips, old wooden ruler, tin pans, and some string. Provide fairly uniform stones as a non-standard unit of weight. Using this unit, have the student estimate the weight of objects in the room. Then have the student weigh the objects and record this information on a worksheet, such as the one shown above.

Follow-up Activities:

1. Have the student, using standard units of pounds and ounces, weigh the same objects and compare the difference.
2. Have the student convert the weight of the objects from follow-up one to the equivalent measure in the metric system.


Clothespins
Wooden Ruler
Milk
Tin Pans
Milk Carton

Milk Carton may be filled with sand for stability.

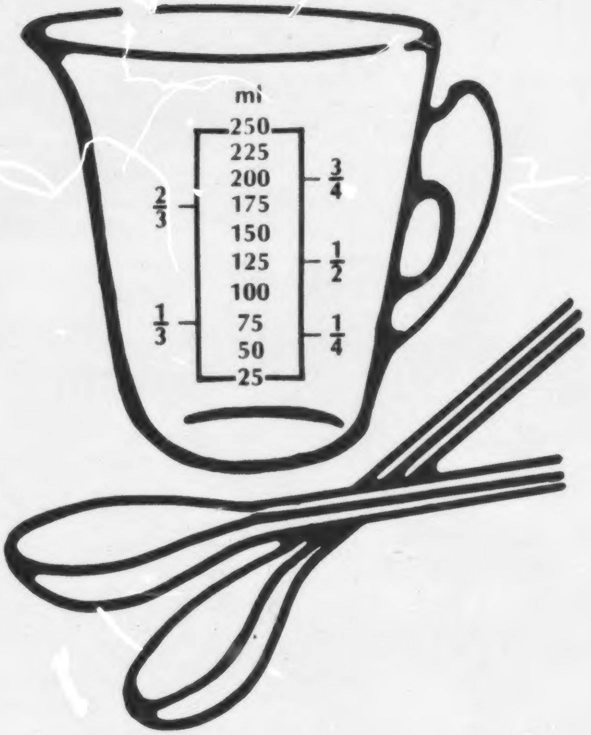


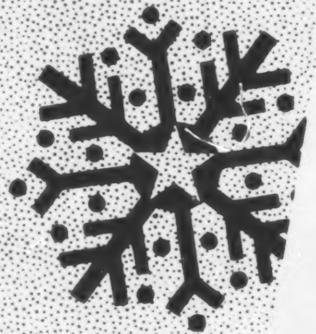
Snowballs

120 ml. of butter or margarine
60 ml. of unsweetened cocoa
240 ml. of sugar
700 ml. of rolled oats
½ teaspoon of vanilla
60 ml. of milk

Beat butter, sugar, and cocoa together until they are thoroughly blended. Add oatmeal, vanilla, and milk. Mix and roll into balls.

Use powdered sugar to roll the balls in.





Snowballs

Skill #534
Measuring Capacity

Objective:

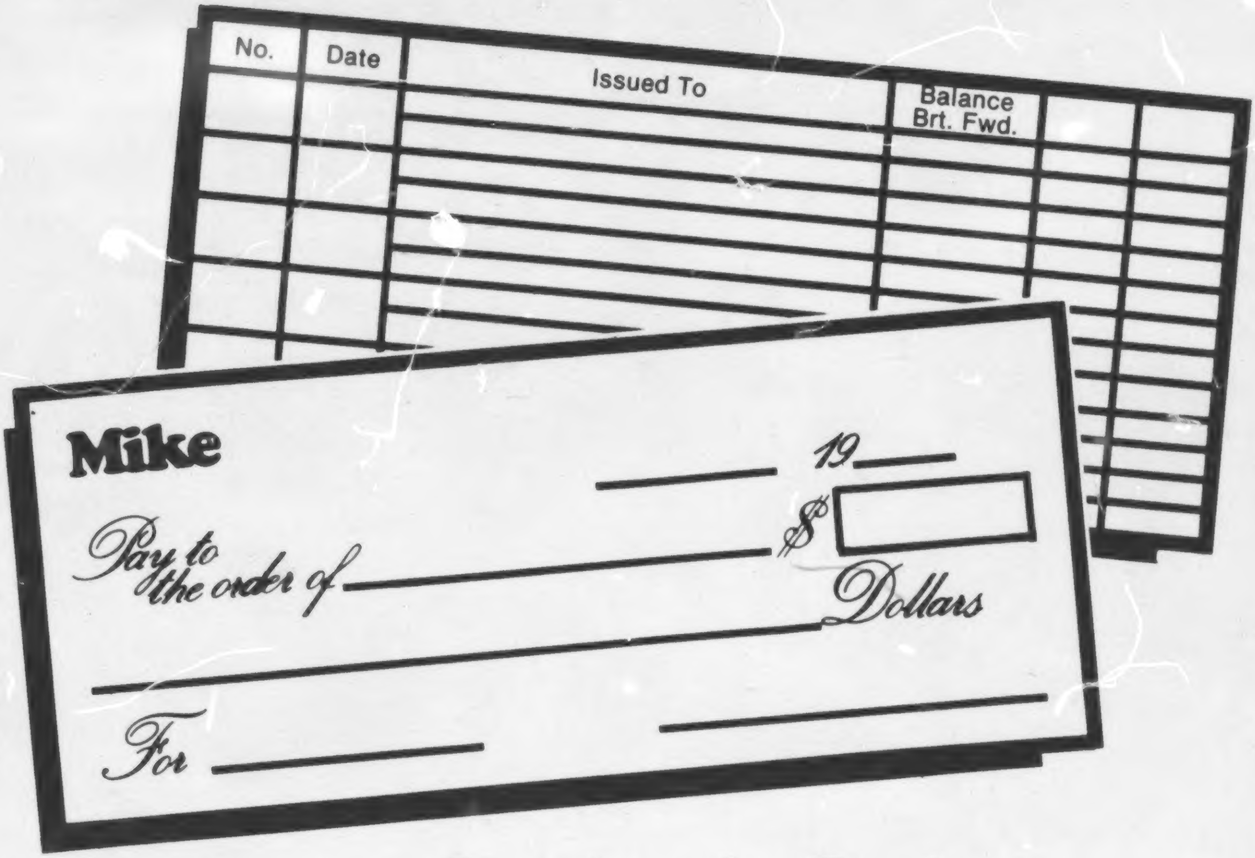
The student will identify volume measured in milliliters.

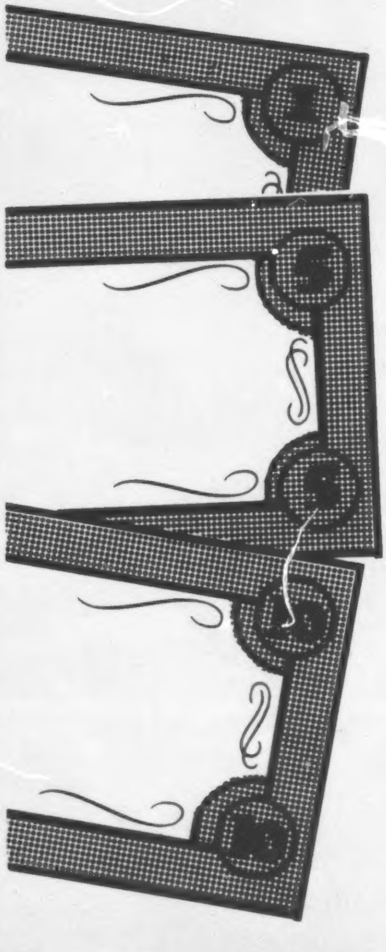
Directions:

Above is a recipe for "snowballs" that do not have to be baked. Have the students measure, make, eat, and enjoy these "snowballs."

Follow-up Activities:

1. Provide students with an old cookbook and have them convert the recipes to metric measurements.
2. Have students bring recipes from home, vote on their favorite one and make it in class. The students must use metric measurements when making their favorite recipe.





Passing the Buck

Skill #540
Value of U. S. Bills

Objective:

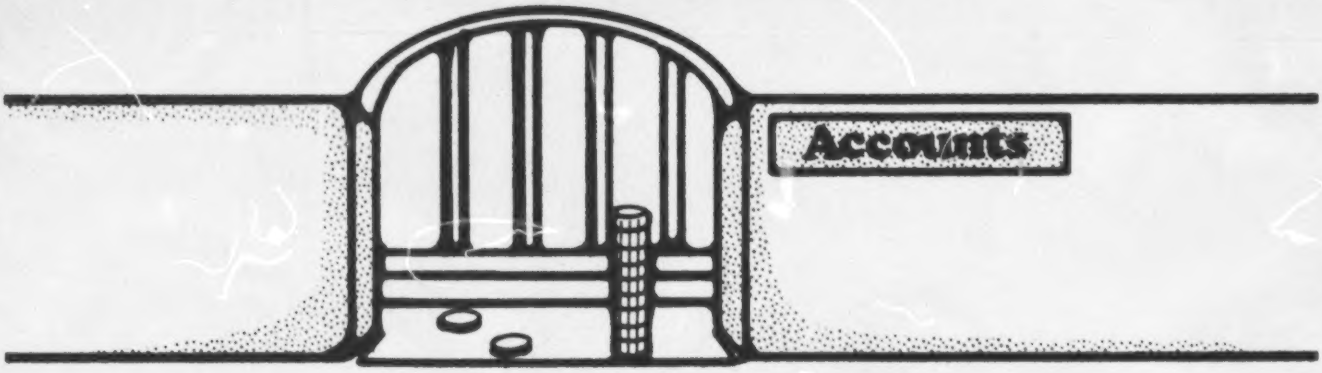
The student will identify the value of bills in dollars.

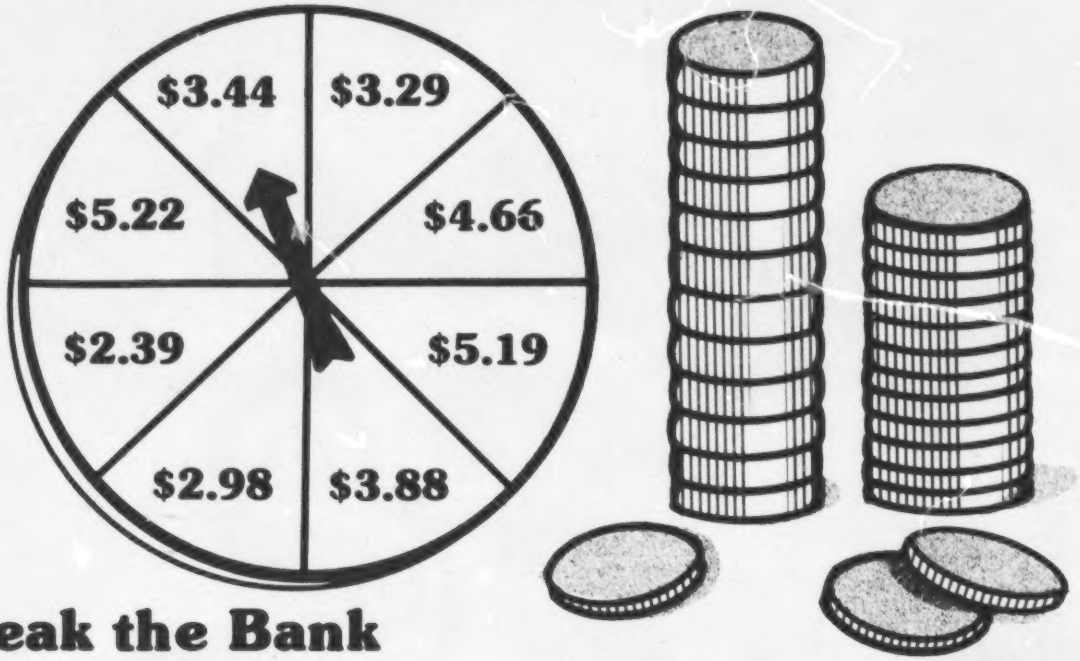
Directions:

Duplicate several checks and check registers (as shown above) and staple them into individual checkbooks. Have the student write down the value of each bill in dollars on the line that says "dollars." In the square above, write its corresponding value in the dollar and cents form.

Follow-up Activities:

1. Issue the student a bank balance to record in his check register. Have him subtract from his balance each check he has written.
2. Have the student design a new dollar bill; make sure it honors an important person.





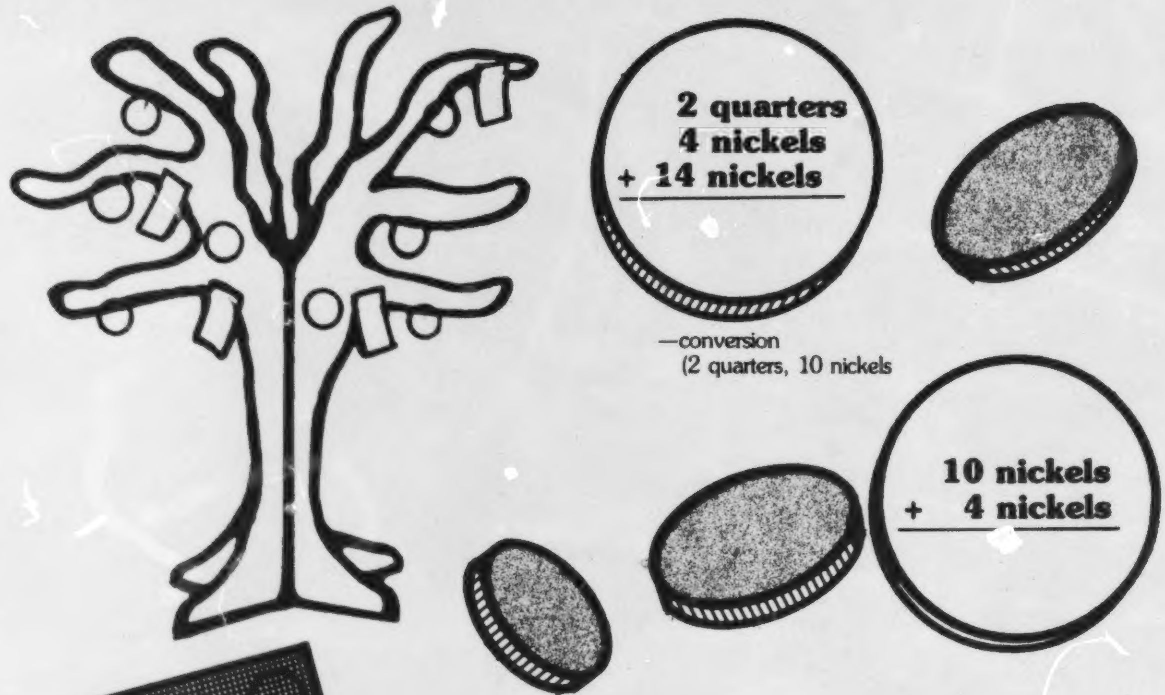
Break the Bank

Skill #546
Converting Between Equivalent Money Values

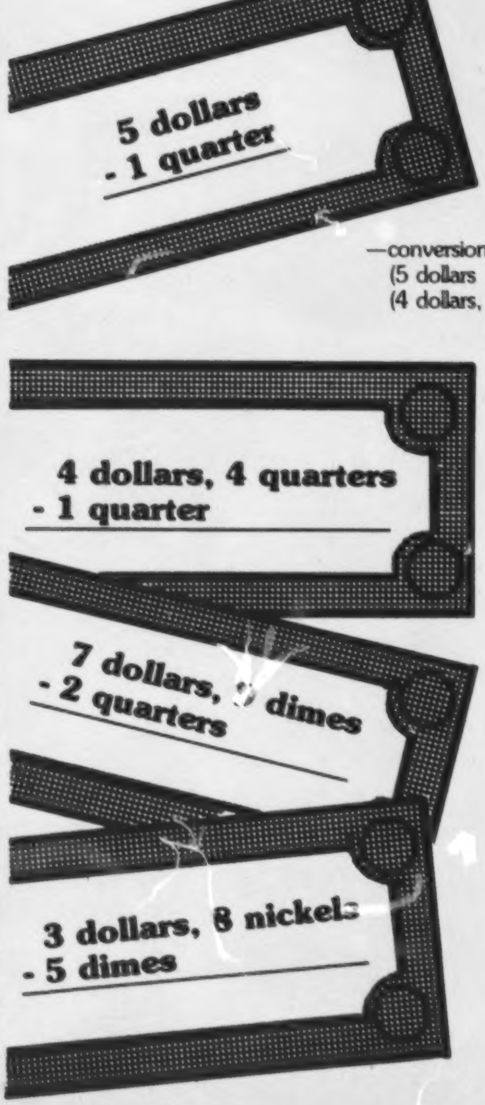
Objective:
The student will identify equivalent combinations of coins and bills.

Directions:
The amount of money in the bank is duplicated and divided equally among the players; for example, let the bank contain ninety dollars and the three players each receive thirty dollars. In alternating turns, each student spins the spinner. He must demonstrate three ways to total the amount shown, using his play money. If he is incorrect, he pays the bank that amount. If he is correct, the banker pays him. The first student to "break the bank" is the winner.

Follow-up Activities:
1. Did you know that there are 293 ways to change a dollar? Have the student test his skills and see how many ways he can change a dollar.
2. Plan a field trip to the bank.


2 quarters
4 nickels
+ 14 nickels
10 nickels
+ 4 nickels

—conversion
(2 quarters, 10 nickels


5 dollars
- 1 quarter
4 dollars, 4 quarters
- 1 quarter
7 dollars, 9 dimes
- 2 quarters
3 dollars, 8 nickels
- 5 dimes

—conversion
(5 dollars =
(4 dollars, 4 quarters)

Money Does Grow on Trees

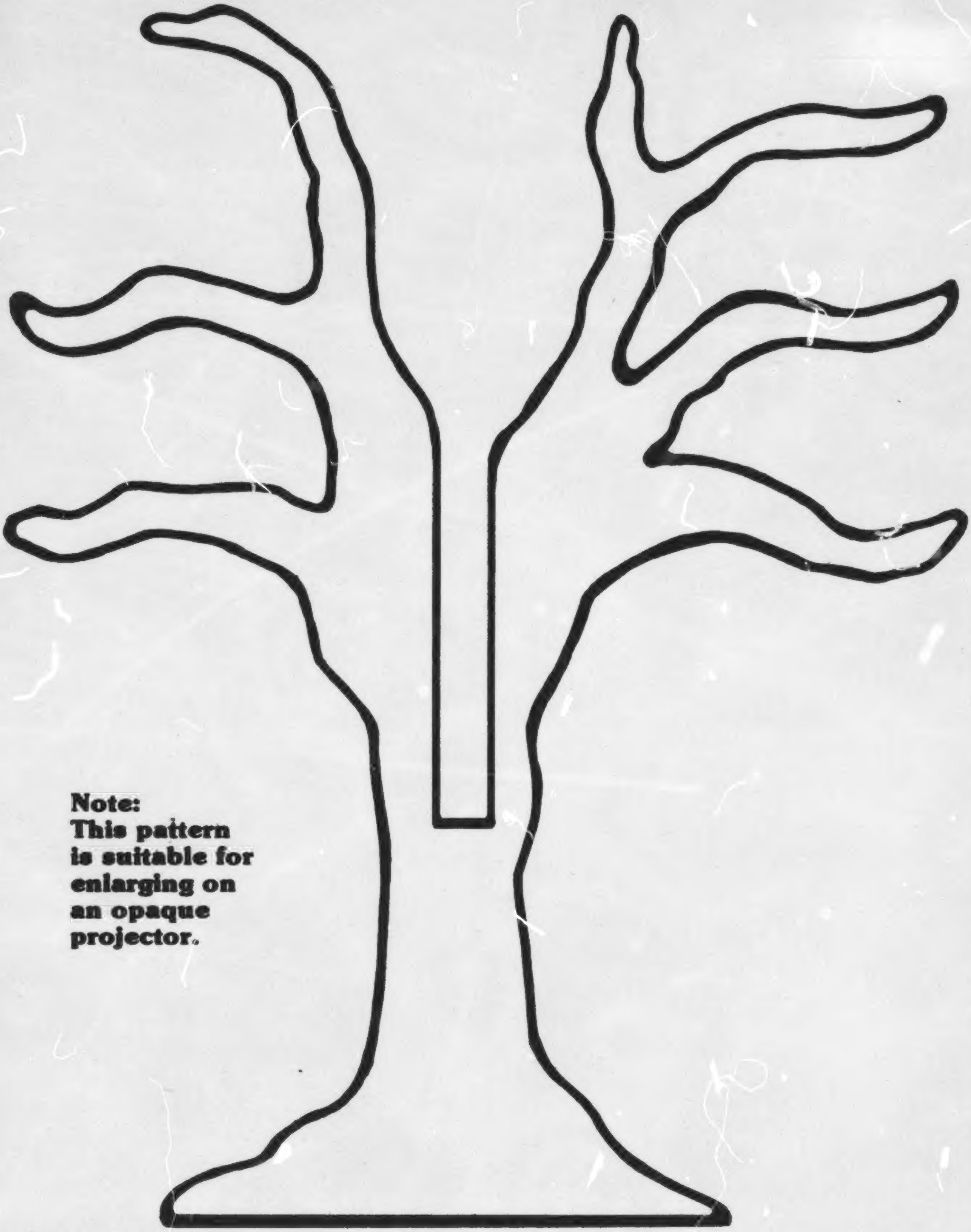
Skills #552, 555
Addition and Subtraction Problems Involving Money

Objective:

The student will identify the necessary conversions to make addition or subtraction possible.

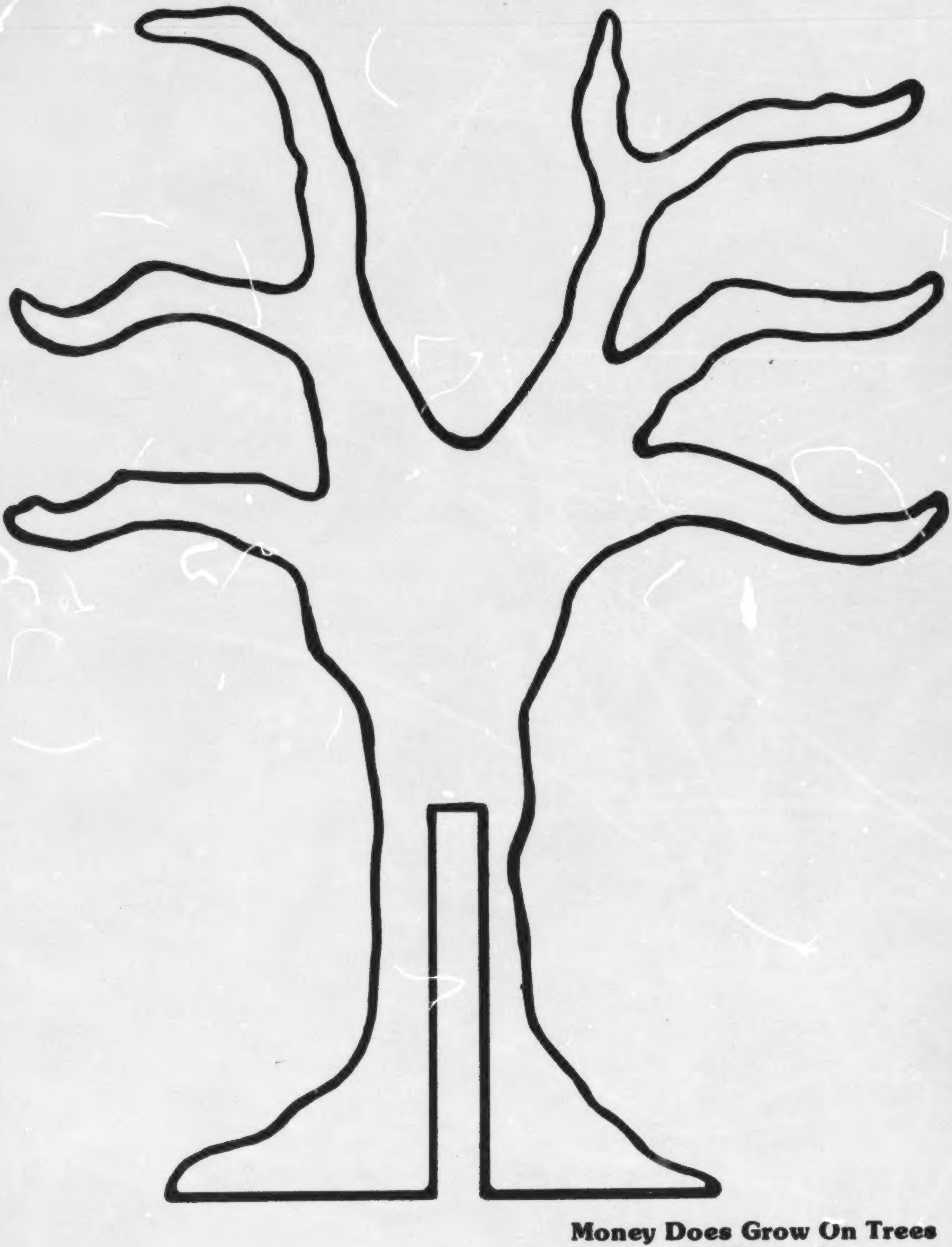
Directions:

Make a money tree from cardboard or plywood (pattern for the tree on pages 121 and 122). Attach to the tree paper bills and coins containing money problems with word names. Have the student take the money from the tree and work the problems written on the paper bills and coins.

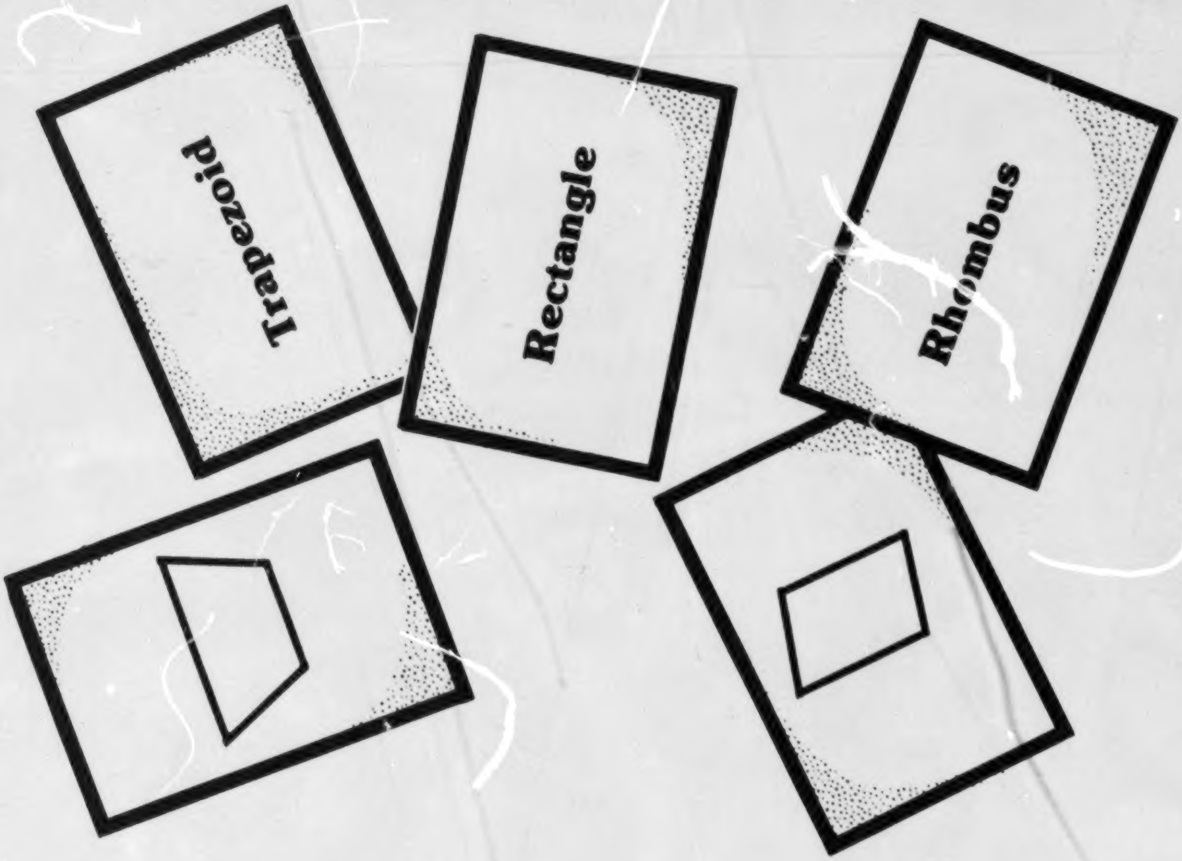


Note:
This pattern
is suitable for
enlarging on
an opaque
projector.

Money Does Grow on Trees
Pattern for Money Tree



Money Does Grow On Trees
Pattern for Money Tree



Geovision

Playing Diagram ⇨

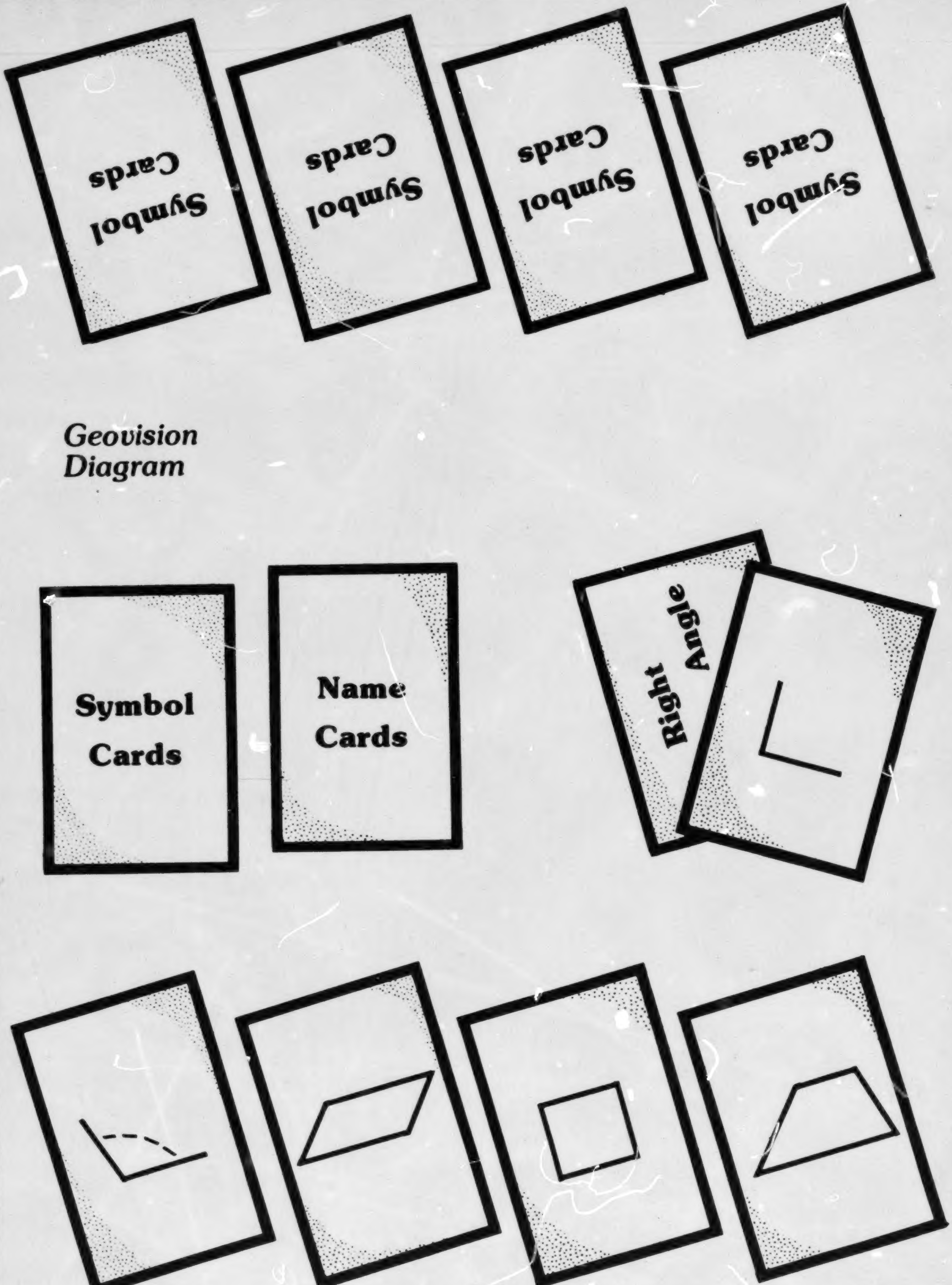
Skills #558, 588
Types of Quadrilaterals and Angles

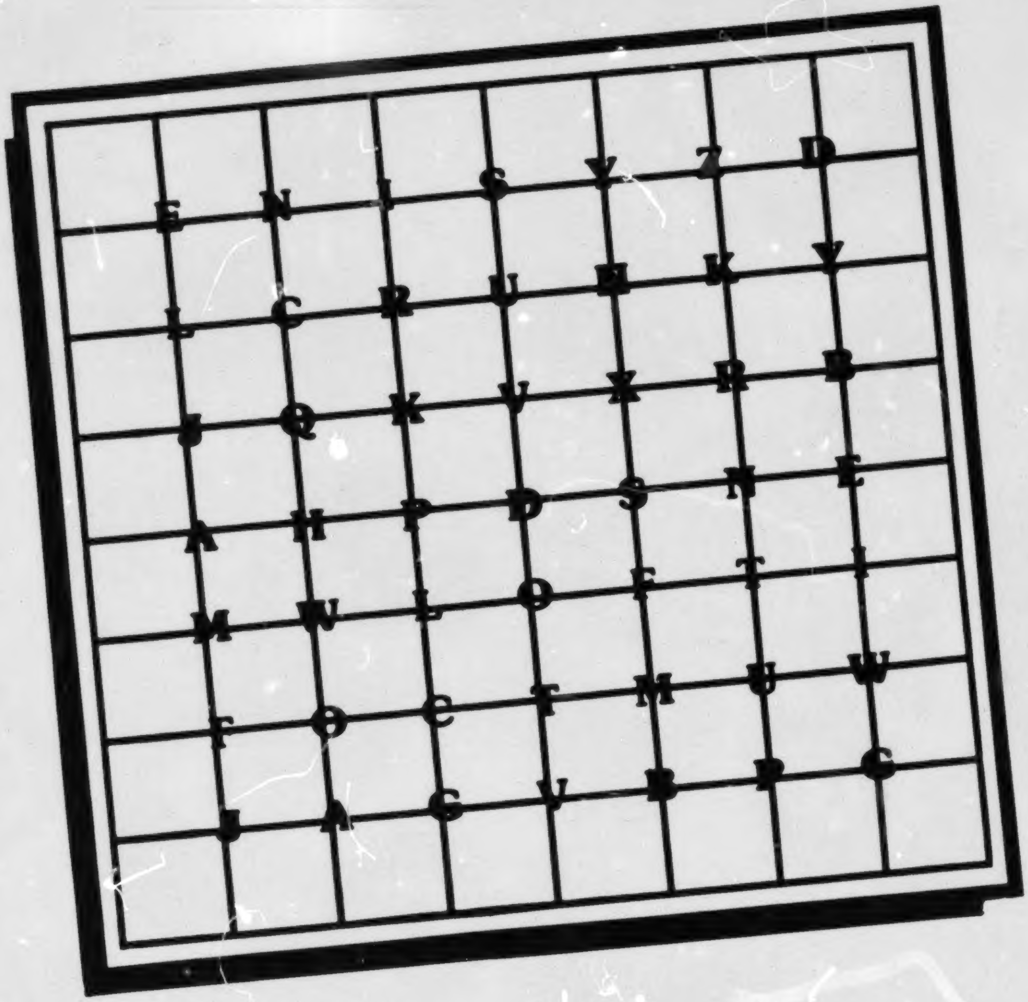
Objective:
The student will identify quadrilaterals and angles.

Directions:
Provide the students with twenty-four playing cards of the following types: six quadrilateral symbols, six with angles, and twelve with their corresponding names. Four symbol cards are dealt to each player; they are placed face up for a few seconds for the students to study and, then, they are turned over. An example is shown on page 124. In alternating turns, each student draws a name card. If he locates the corresponding symbol card, he forms a pair, scoring five points. He then draws another symbol card to replace it. If he doesn't locate the symbol card, the name card is returned to the stack. The game is played until all pairs have been matched.

Follow-up Activities:
1. Have the student build 3-D geometric shapes with toothpicks and glue.
2. Have the students combine their shapes into mobiles to decorate the room.

Geovision Diagram


Symbol Cards
Symbol Cards
Symbol Cards
Symbol Cards
Symbol Cards
Name Cards
Right Angle



(C,1) (G,3) (A,3) (F,3) D,1) (D,6) (C,6)
(B,4) (D,7) (D,1) (F,2) (D,2) (D,7) (F,3)
(D,5) (A,2) (F,3) (G,1) (G,2) (B,6) (C,1)
(A,5) (G,1) (F,3) (C,4) (G,2) (G,1)

Coordinate Code

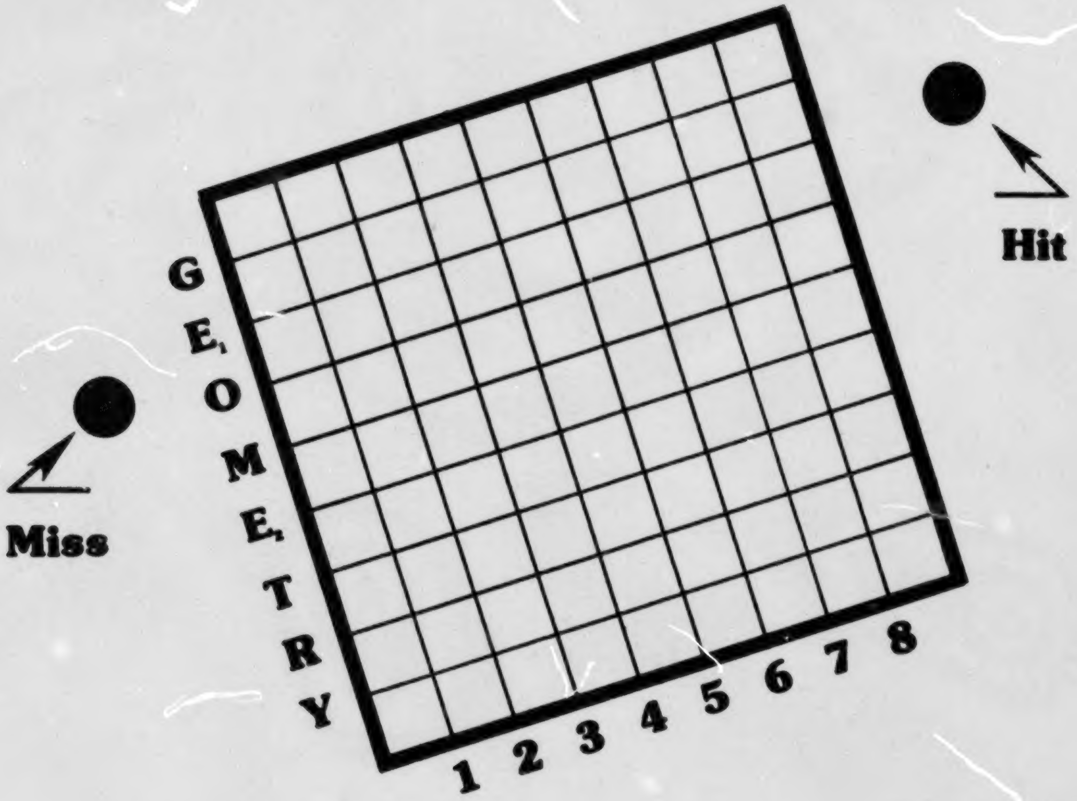
Skill #585
Coordinates and Points

Objective:
The student will identify an ordered pair representing the coordinate or point.

Directions:
Provide the student with a grid, such as the one shown above. Prepare a coded message, using the coordinates from the grid, and have the student decode it.

Follow-up Activities:
1. Have the students write secret messages, using the grid in the activity.
2. Allow the students to exchange messages and to decode them.

7110 GEOMETRY



"Gizmo"

Skill #585
Coordinates and Points

Objective:

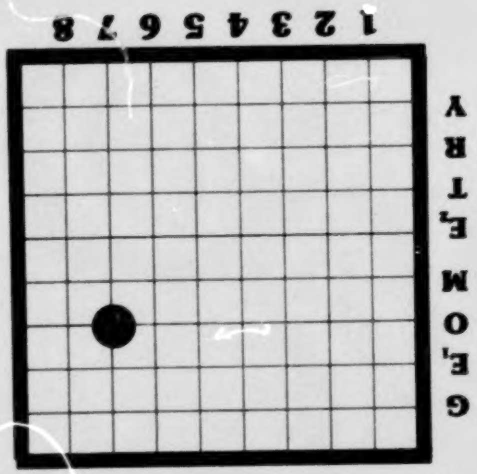
The student will identify points for expressed coordinates.

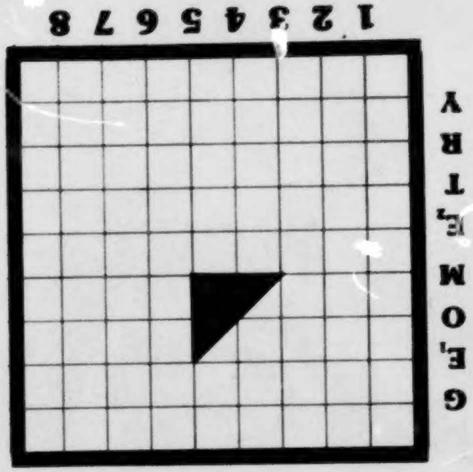
Directions:

"Gizmo" is played in the traditional format of "Battleship." Each player receives a grid for placing geometric shapes on and another for plotting his opponent's locations. Grids should be hidden from the opponent's view. Each player draws a geometric shape on his grid making sure it touches three coordinates.

The first player calls out a coordinate, such as $(E_1,5)$. Since it touches player #2's triangle, he must say "hit" and player #1 records $(E_1,5)$ on his locational grid with a red dot (example shown on next page). Player #2 takes his turn and calls out the coordinate (0,7). Player #1 calls out "miss" and player #2 records a black dot on (0,7) of his locational grid. The game is played until one player guesses enough correct coordinates to locate his opponent's shape.

Player #2's sheet to keep track of player #1's location

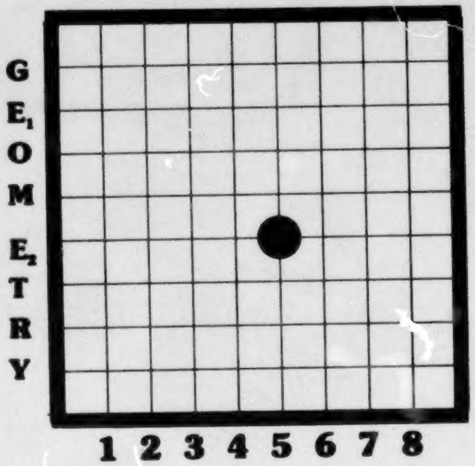

1 2 3 4 5 6 7 8
G E₁ O M E₂ T R Y

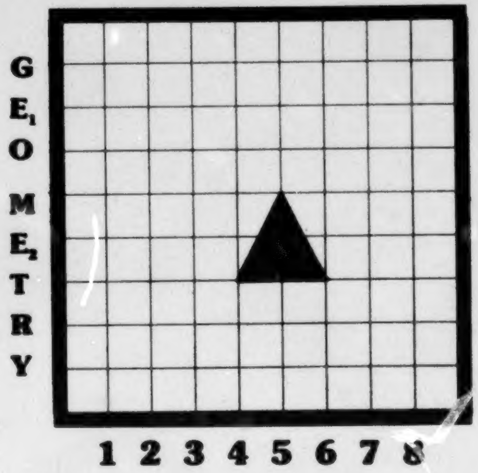

1 2 3 4 5 6 7 8
G E₁ O M E₂ T R Y

Player #2

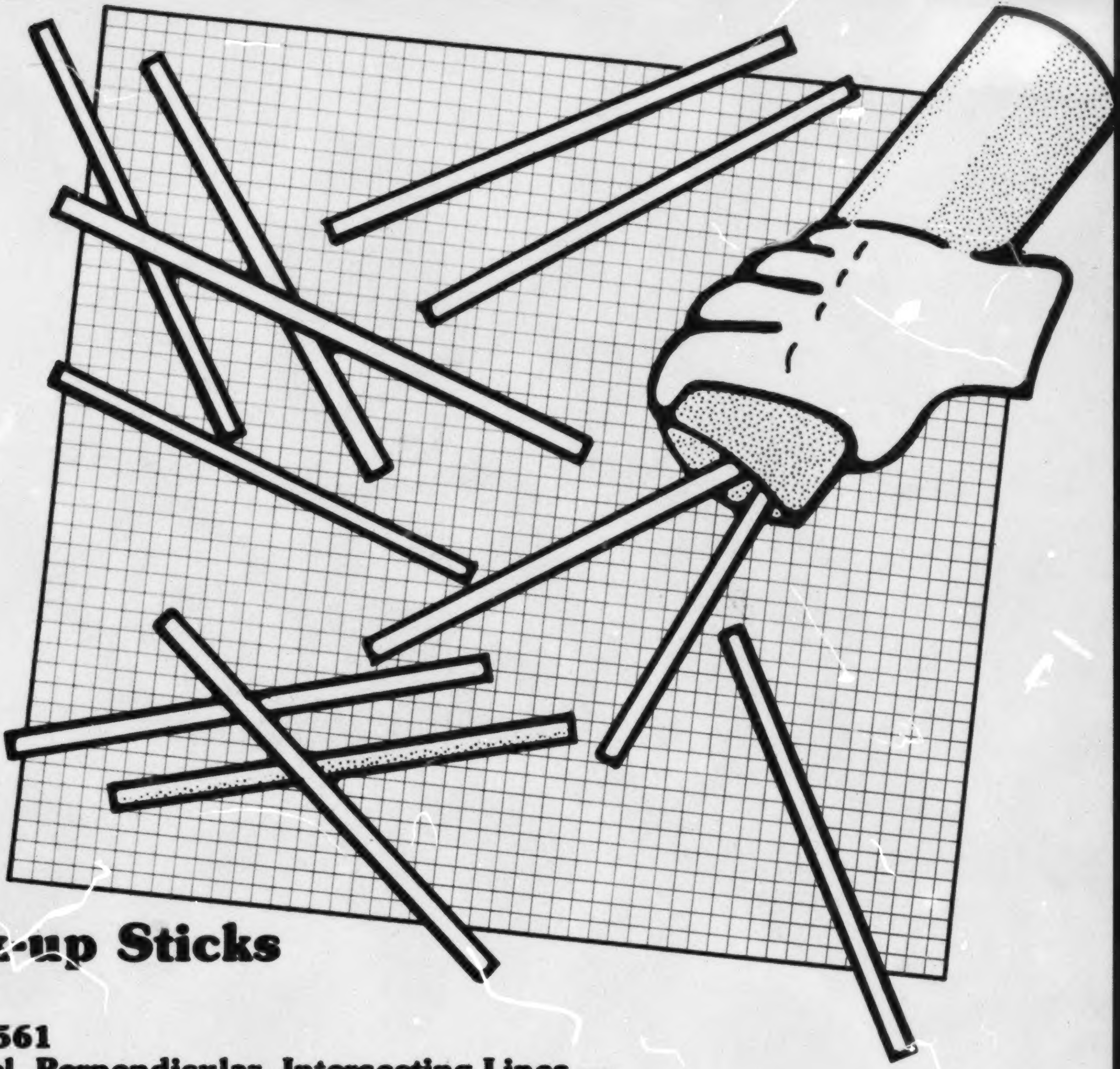
● red dot = hit ● black dot = miss

Player #1's sheet to keep track of player #2's location


G E₁ O M E₂ T R Y
1 2 3 4 5 6 7 8


G E₁ O M E₂ T R Y
1 2 3 4 5 6 7 8

Player #1



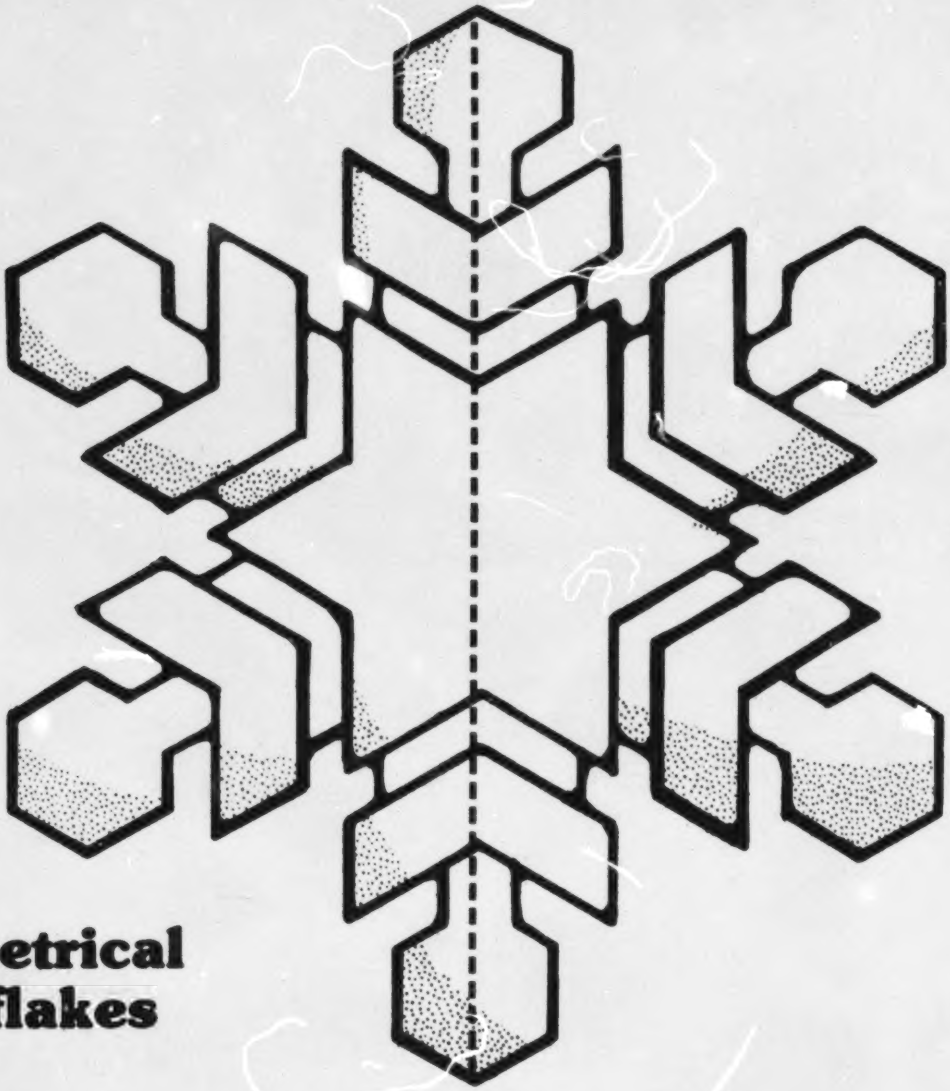
Pick-up Sticks

Skill #561
Parallel, Perpendicular, Intersecting Lines

Objective:
The student will name the line segment as parallel, perpendicular or intersecting.

Directions:
This activity is played with pick-up sticks. In alternating turns, each student disperses the sticks and identifies which sticks are parallel, perpendicular or intersecting.

Follow-up Activities:
1. Have the students identify objects in the room that demonstrate parallel, perpendicular or intersecting lines.
2. Provide the students with geometric drawings and have them identify the parallel, perpendicular or intersecting lines.



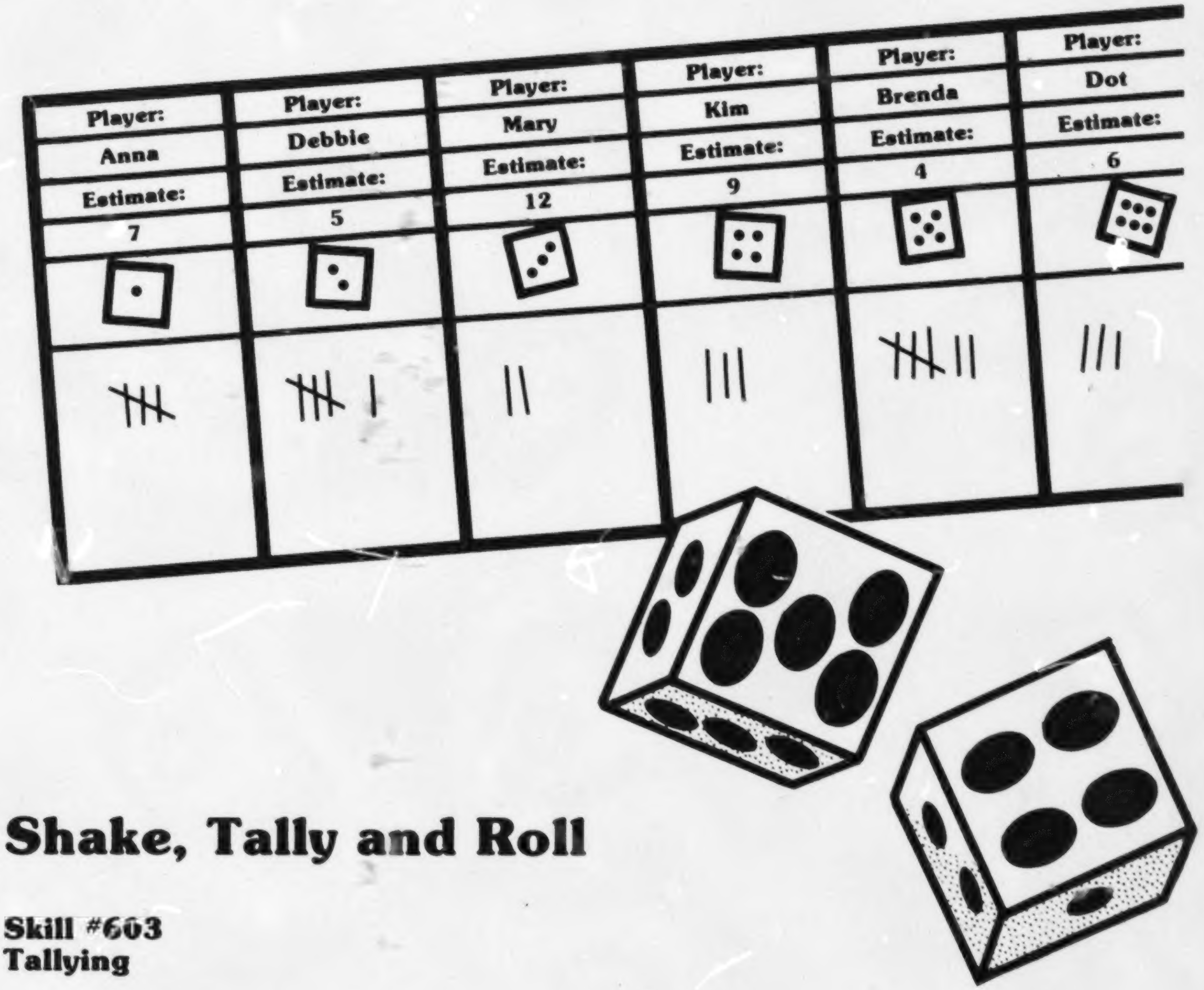
Symmetrical Snowflakes

Skill #567
Symmetry of Objects or Figures

Objective:
The student will identify the lines of symmetry in objects or figures.

Directions:
The procedure for doing symmetrical cutouts is as follows: fold a piece of paper, cut out a figure which encloses part of the crease and then unfold it. The crease is called the "line of symmetry." An example of a symmetrical snowflake is given. Have the students cut out their own symmetrical snowflakes.

Follow-up Activities:
1. Using the snowflakes from the above activity, decorate the bulletin board and title it "Symmetrical Snowflakes."
2. Have the students find, within the room, one symmetrical object and one non-symmetrical object.


Player:
Anna
Estimate:
7
Player:
Debbie
Estimate:
5
Player:
Mary
Estimate:
12
Player:
Kim
Estimate:
9
Player:
Brenda
Estimate:
4
Player:
Dot
Estimate:
6

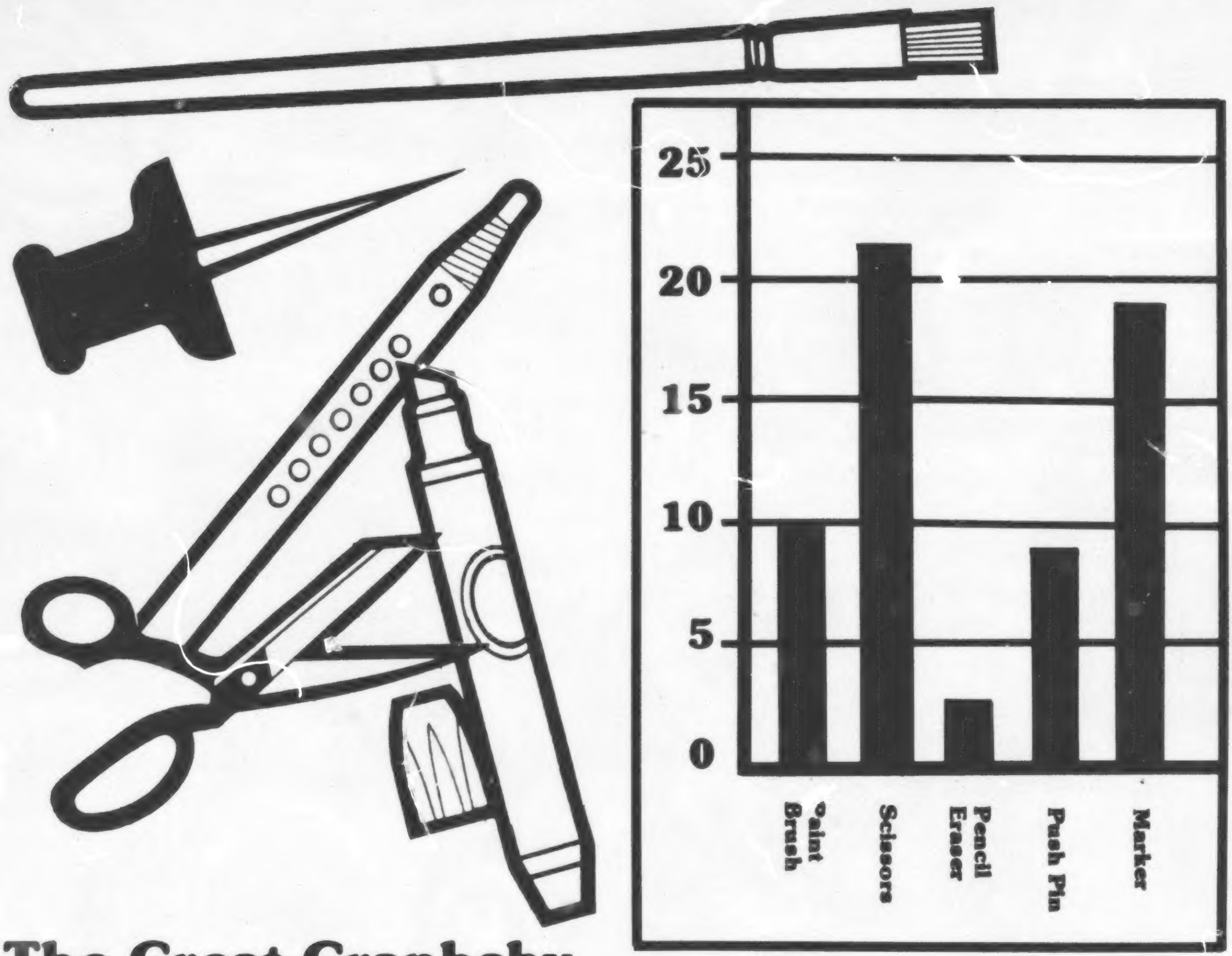
Shake, Tally and Roll

Skill #663
Tallying

Objective:
The student will identify a collection of tally marks representing the number.

Directions:
Each player will throw a pair of dice ten times and will keep a tally each time his number appears. He receives five points for each tally mark within his estimate and a bonus of twenty-five points if he estimates the exact number of tallies.

Follow-up Activities:
1. Assign the student a number and have him identify a collection of tally marks representing that number.
2. For one week have the students keep a daily attendance count, using a tally system. Suggestion: provide popsicle sticks for variety.



The Great Graphsby

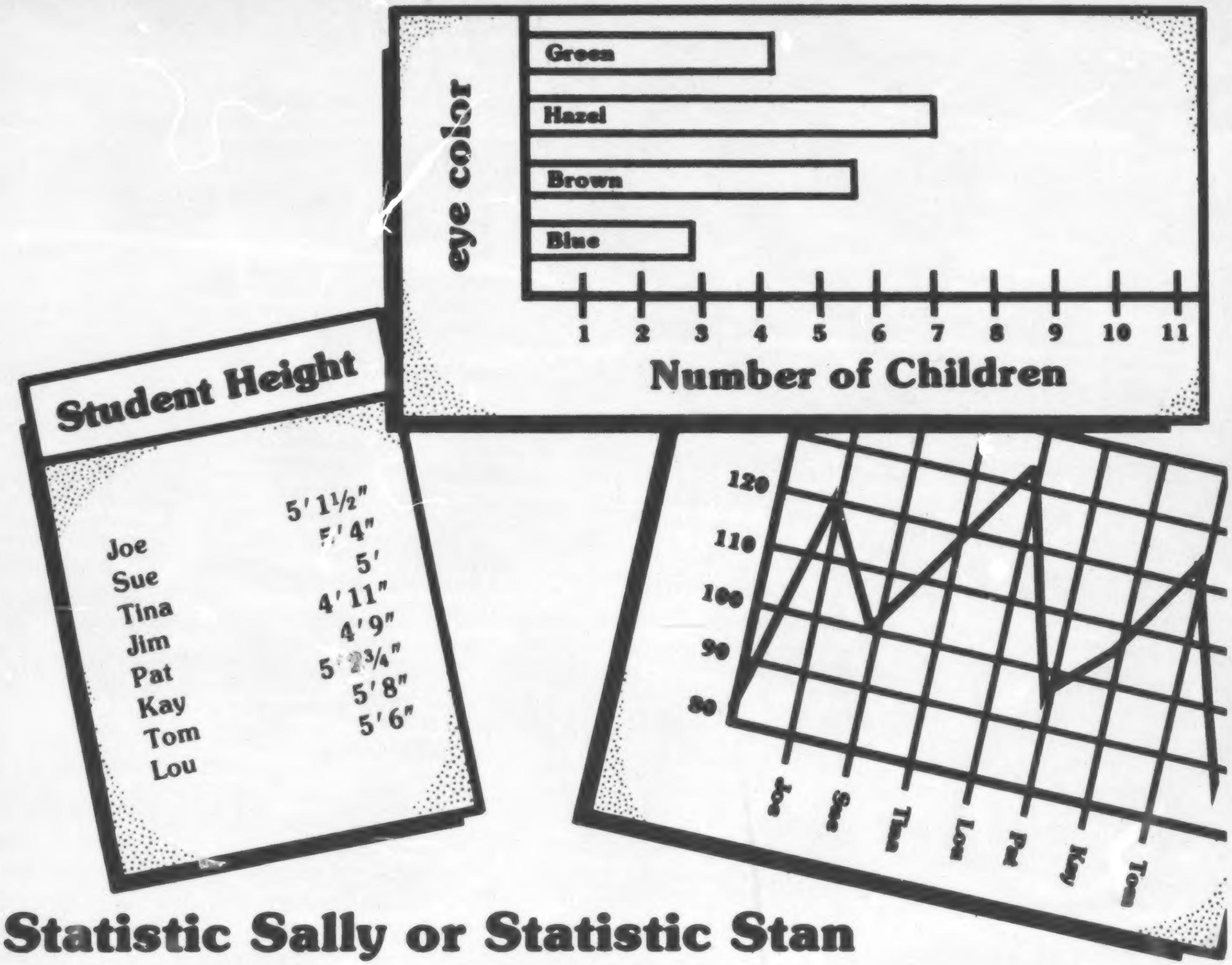
Skill #606
Bar Graphs

Objective:
The student will identify a bar graph representing the set of data.

Directions:
Show the student a simple bar graph as an example. Give him pictures of objects that can be found easily in the room. Then, have him draw a bar graph indicating the number of objects he has found.

Follow-up Activities:

1. For an outside assignment, instruct each student to observe normal traffic for a period of twenty minutes. On a bar graph, have him record the number of each type vehicle he sees; for example, cars, trucks, motorcycles, bicycles, buses.
2. As a group activity, have the students make a graph, combining the data from their observations, and use it for an attractive room display.



Statistic Sally or Statistic Stan

Skills #606, 609, 612
Bar Graphs, Data Tables, Line Graphs

Objective:

The student will interpret a bar graph, a data display, and a line graph.

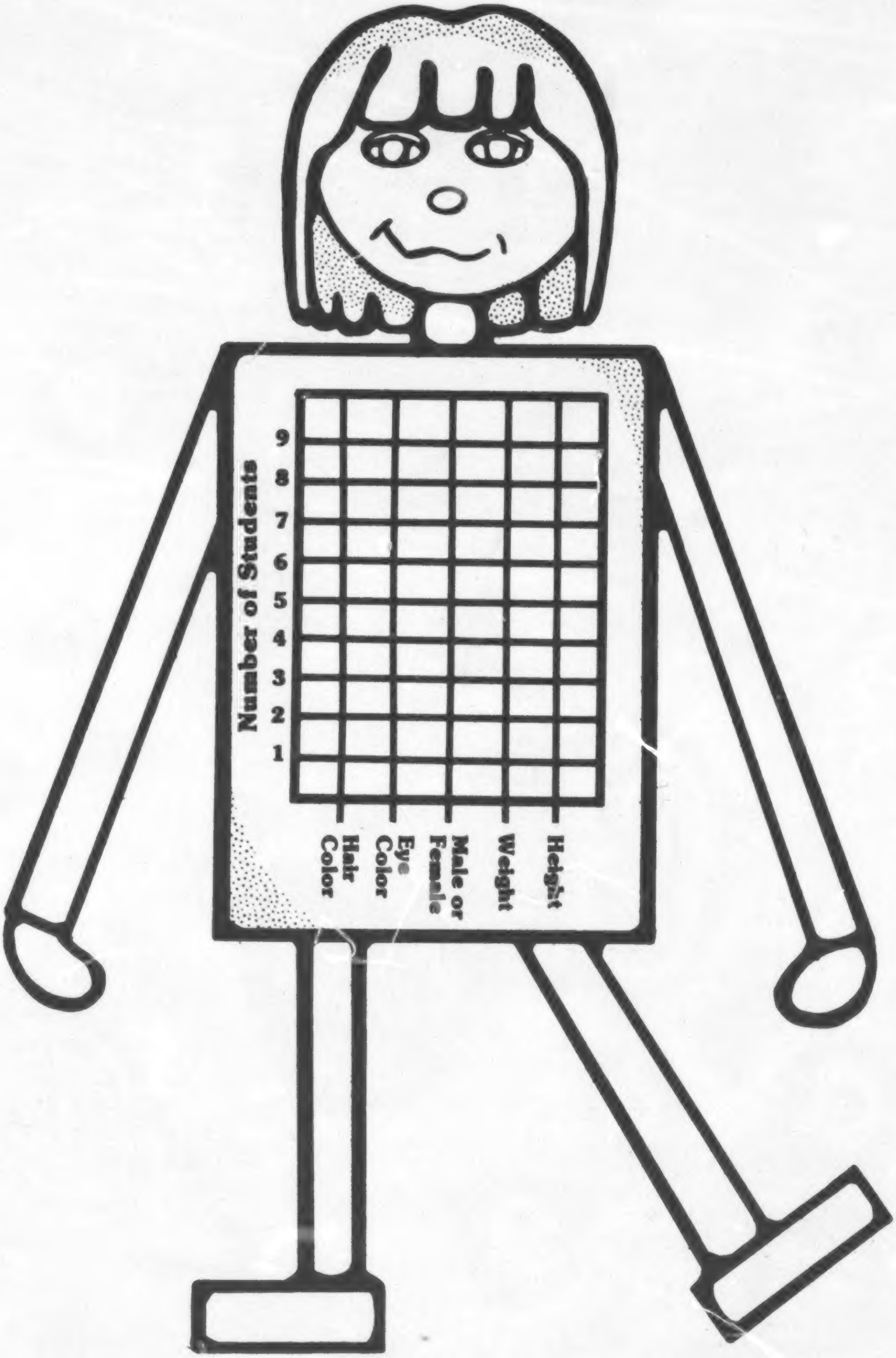
Directions:

Have the students record the following data on the students in their classroom: hair color, eye color, sex, weight, and height. Have them represent their findings on a line graph. As a class project, have the students chart (using the figure on page 133) the most prevalent hair color, eye color, sex, average height and weight.

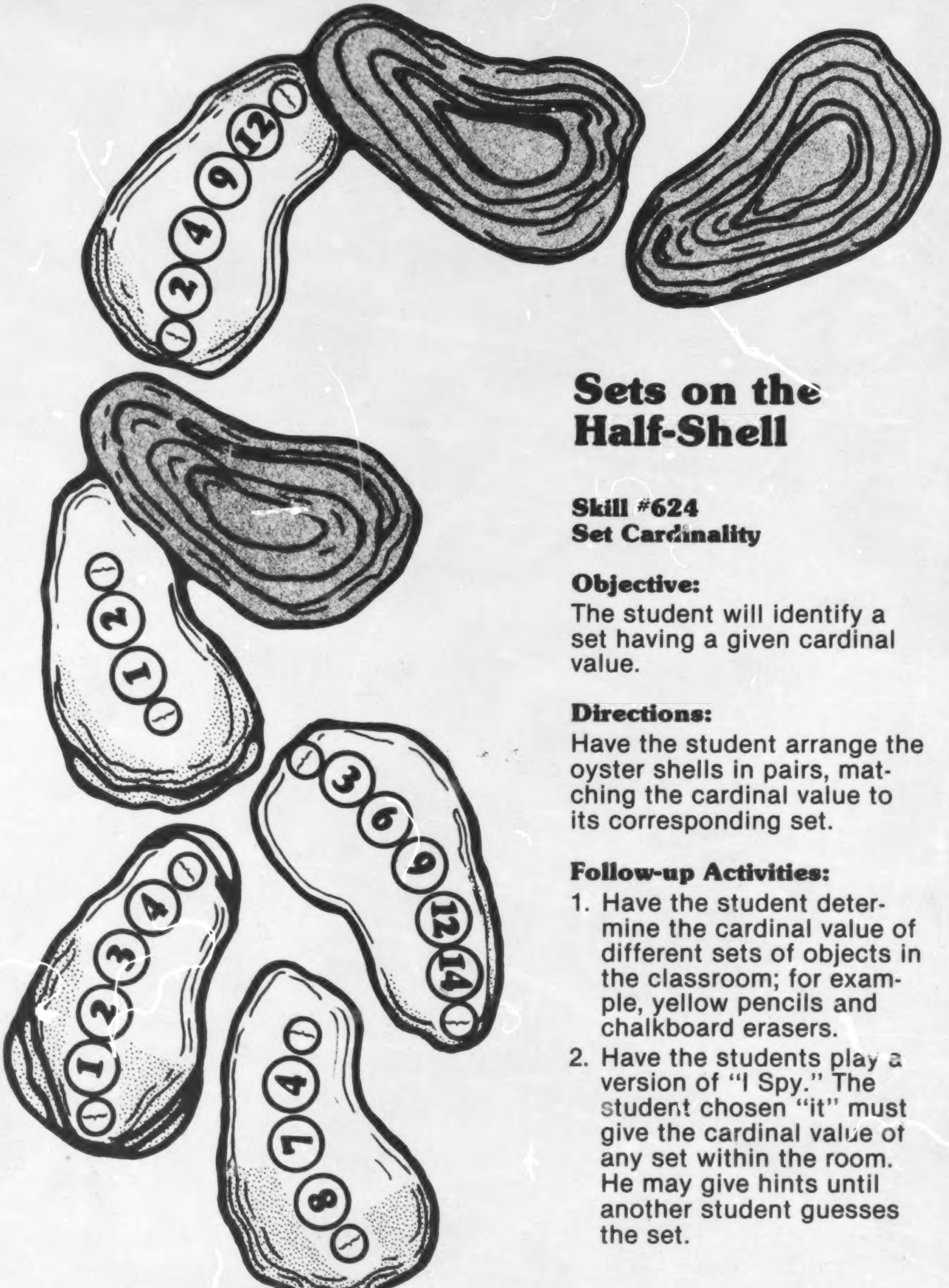
Follow-up Activities:

1. Have the student chart the same information on a bar graph.
2. Choose one person whose statistics are closest to the average and have the students trace around him, using an old sheet to make a life-size figure. For added fun, have the students dress their creation with old clothes from home. Hint: Old newspaper makes an effective stuffing.

Statistic Sally or Statistic Stan


Number of Students
9
8
7
6
5
4
3
2
1
Hair Color
Eye Color
Male or Female
Weight
Height

139



Sets on the Half-Shell

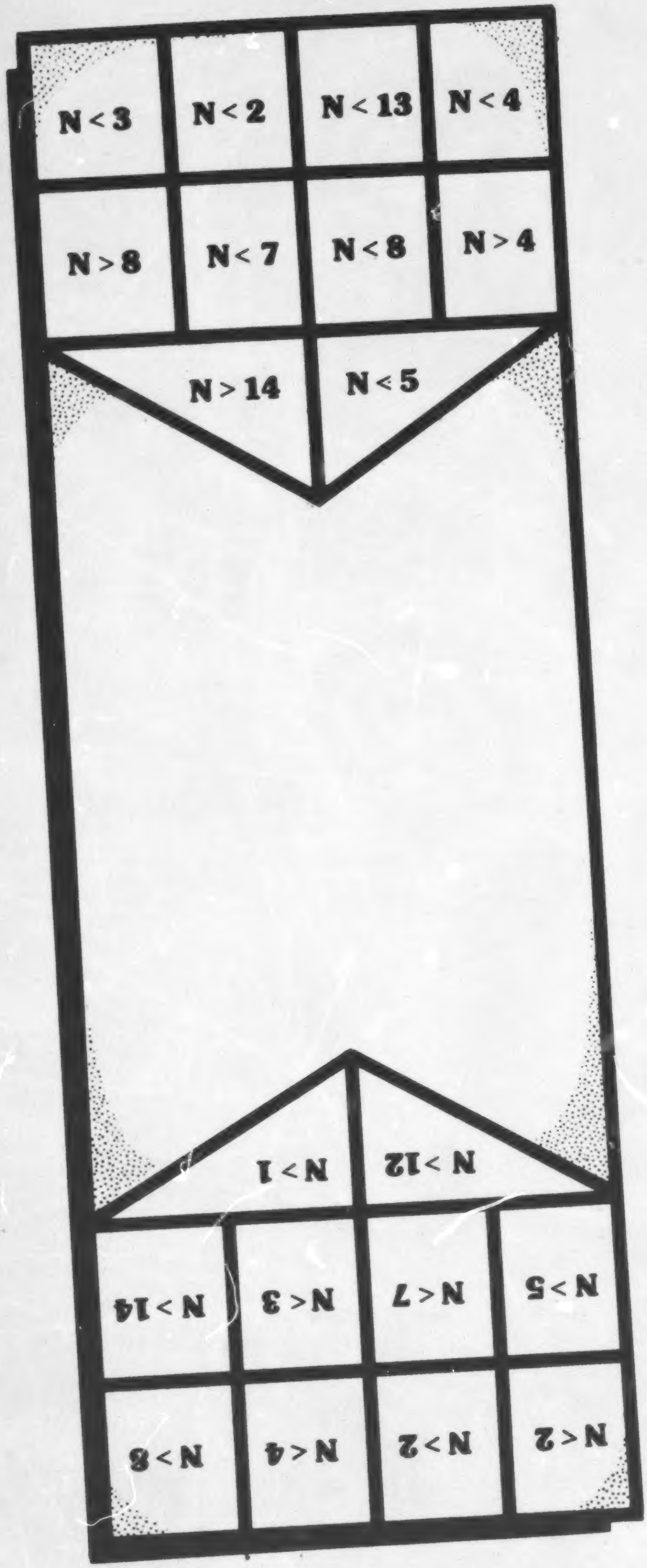
Skill #624
Set Cardinality

Objective:
The student will identify a set having a given cardinal value.

Directions:
Have the student arrange the oyster shells in pairs, matching the cardinal value to its corresponding set.

Follow-up Activities:

1. Have the student determine the cardinal value of different sets of objects in the classroom; for example, yellow pencils and chalkboard erasers.
2. Have the students play a version of "I Spy." The student chosen "it" must give the cardinal value of any set within the room. He may give hints until another student guesses the set.



Subset Shuffle

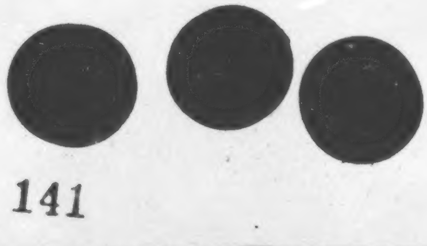
Skill #636
Generating Subsets

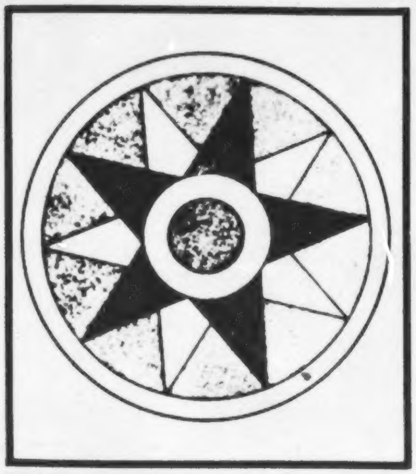
Objective:
The student will identify subsets.

Directions:
Two players stand at each end of the table top shuffle board. In alternating turns, each student slides his disc toward the opposite end of the shuffle board, landing on one of the squares. He must identify four possible subsets for the set in the square using the set of numbers from one to ten. If he is correct, he receives the number of points on the square. Players may change ends and play until a total of fifty points is reached by one of the players.

Follow-up Activities:

1. Provide the student with a directory, such as the yellow pages of a phone book, and assign a set. Have him list the elements of that set.
2. For a group activity, name a set in the room and have the students see how many subsets they can identify; for example, identify people in the class who have brown eyes.



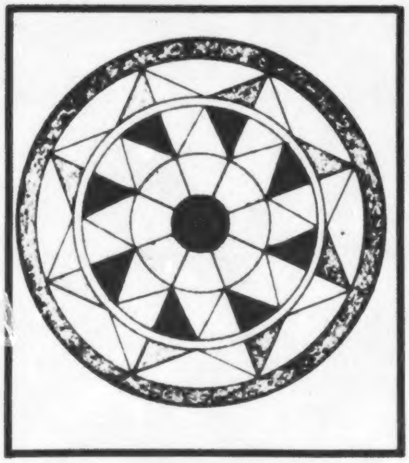


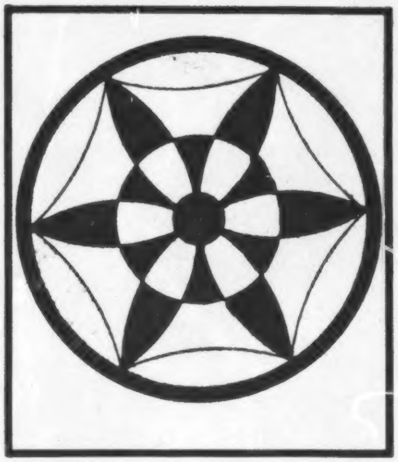
HEX MEANINGS

To some, the number of points on a hex star gives different and significant meaning to a symbol:

- A four-pointed star supposedly brings good luck.
- A five-pointed star protects barns from lightning and demons and represents the five senses and good health.
- A twelve-pointed star represents knowledge, wisdom, and sincerity.
- A sixteen-pointed star is the symbol of justice.
- A seven-pointed star is a ward against all evil.
- An eight-pointed star is a sign of good will, freedom, and land ownership

Typical designs, almost always within a circle, include stars with four, five, six, eight, ten, sixteen, and up to thirty-two points. The stars are usually decorated with symbols and the hex sign painted in yellow, white, red, and black. Many hexes are done in only one or two colors, however. A white stripe painted around a barn door to ward off the devil was another hex "design."





● = **Union**

Yellow = **Intersection**

Hex Sets

Skills #666, 669
Union and Intersection

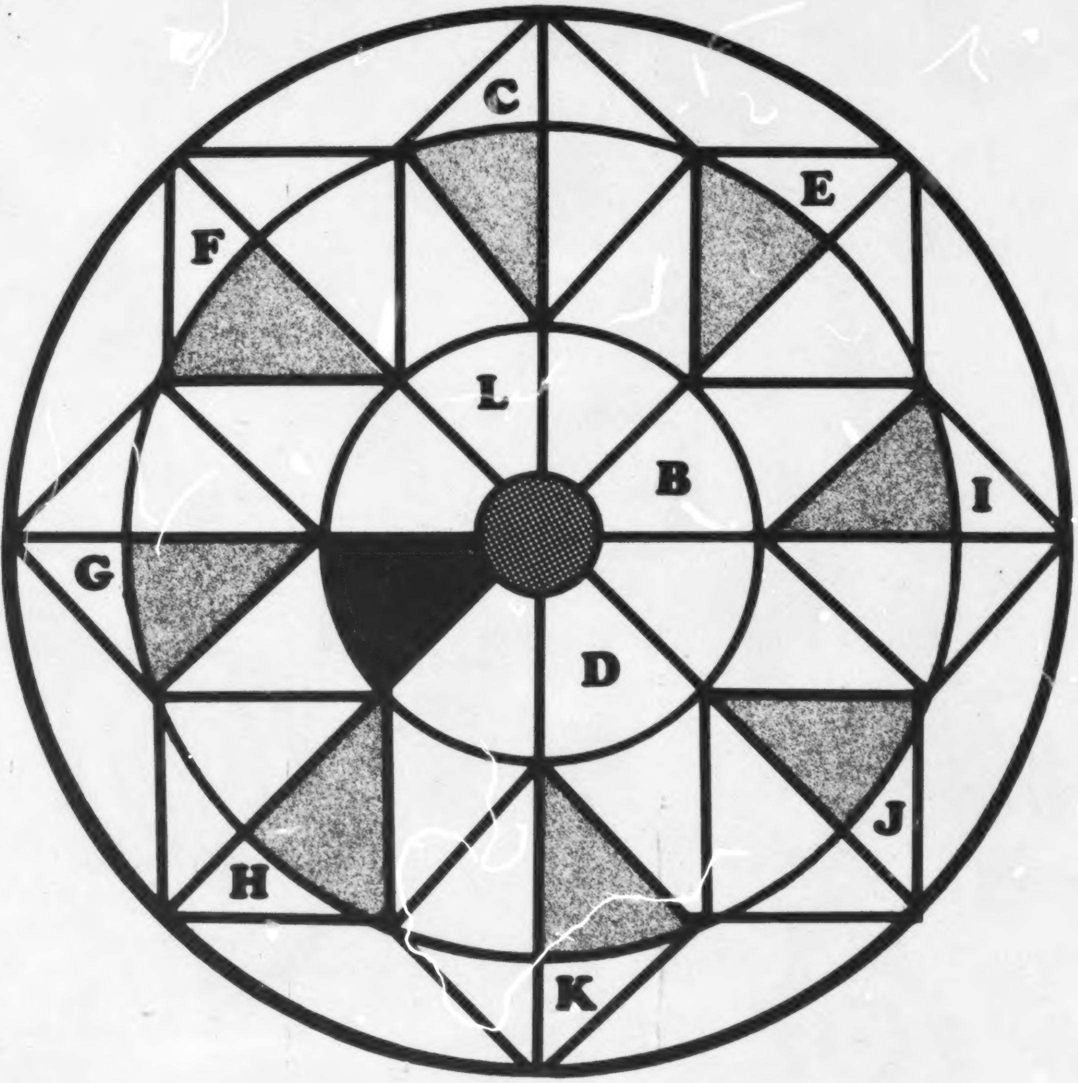
Objective:

The student will identify the elements contained in the union and in the intersection of sets.

Directions:

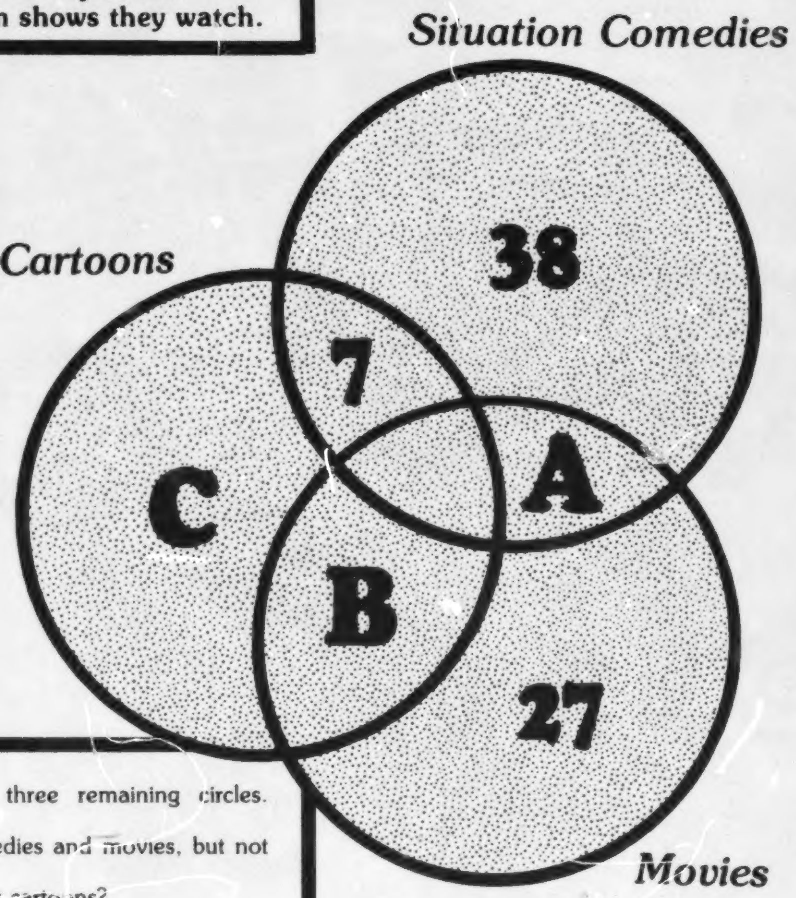
Have the student color each letter segment of the hex sign on the opposite page. If Set III is the union of Sets I and II, he must color the segment red. If Set III is the intersection of Sets I and II, he must color the segment yellow.

A. I. {3/4, 3/5} II. {3/4, 3/8} III. {3/4, 3/5, 3/8}	E. I. {12, 13, 14, 18} II. {18, 19, 20} III. {12, 13, 14, 18, 19, 20}	I. I. {1/2, 1/16, 1/32} II. {1/2, 1/16, 1/32, 1/64} III. {1/2, 1/16, 1/32}
B. I. {2/3, 5/8, 7/8} II. {2/8, 4/8, 8/8} III. {2/3, 2/8, 4/8, 5/8, 7/8, 8/8}	F. I. {2/3, 7/8, 8/8} II. {2/8, 7/8, 8/8} III. {2/3, 2/8, 7/8, 8/8}	J. I. {3/4, 3/5} II. {3/8, 3/5} III. {3/4, 3/5, 3/8}
C. I. {1, 2, 3, 4} II. {3, 4, 5} III. {3, 4}	G. I. {12, 13, 14, 18} II. {14, 18, 19, 20} III. {14, 18}	K. I. {1, 2, 3, 4} II. {3, 6, 9} III. {3}
D. I. {7, 8, 9} II. {7, 8, 9, 10} III. {7, 8, 9}	H. I. {1/2, 1/16, 1/32} II. {1/16, 1/32} III. {1/2, 1/16, 1/32}	L. I. {22, 24, 28} II. {24, 28, 29} III. {24, 28}



Listed below are the results of a survey of 120 people indicating what television shows they watch.

Shows Watched	Number of People
Situation Comedies	56
Cartoons	30
Movies	41
Sitcom, Movies	10
Sitcom, Cartoons	12
Cartoon, Movies	8
Cartoons, Movies and Sitcoms	5



1. Write the number of people for the three remaining circles. (Answer A = 6; B = 3; C = 15)
2. How many people watched situation comedies and movies, but not cartoons?
3. How many people watched movies, but not cartoons?
4. How many people watched cartoons and sitcoms, but not movies?
5. How many people did not watch any of these types of shows?

Tele-Venn

Skill #693
Multiple Sets

Objective:
The student will identify the elements contained in the intersection.

Directions:
Have the student answer the questions above, using the "Venn" diagram.

Follow-up Activities:

1. Have the students make a survey of their favorite leisure time activities. Have them draw a "Venn" diagram of the three most popular activities.
2. Have the students write questions concerning the "Venn" diagram from follow-up one, using the original activity as a guide.